5.8 Geology/Soils

The geology and soils conditions, analysis of impacts, and mitigation framework are based on the Update Geotechnical Report completed by Geocon, Inc. (2012). This report is included as Appendix H.

5.8.1 Existing Conditions

5.8.1.1 Soil and Geologic Conditions

The CPU area is underlain by three surficial soil deposits and three geologic formations. The surficial soils include artificial fill (unmapped), topsoil/colluvium (unmapped), and alluvium. The geologic formations include Pleistocene Very Old Paralic Deposits (formerly the Lindavista Formation), Upper Pliocene San Diego Formation, and Pliocene Otay Formation. These soils and geologic formations are broken into compressible and expansive categories as shown on Figure 5.8-1 and described below.

a. Undocumented Fill (Unmapped)

During field reconnaissance, undocumented fill was observed in the central portion of the CPU area south of SR-905. Undocumented fill was interpreted as loose soil with concrete debris, trash, and miscellaneous materials. The fills appear to have been placed for a variety of purposes such as access barriers and material disposal areas for household trash and vegetation. Minor undocumented fills also were observed primarily as a result of agricultural operations and possibly for control of surface water along the proposed extension of Airway Road. Artificial fill marked by signage to contain hazardous materials was observed on the west side of Cactus Road, south of SR-905 (Geocon, Inc. 2012).

Compacted fill soils were identified within the CPU area and were likely placed to construct facilities such as water reservoirs, transmission towers, associated roads, or runways on Brown Field. However, no engineer's record of compaction for these fill soils was identified, and as a consequence, these fills are considered undocumented until the appropriate records are provided.

Undocumented fills are unsuitable for support of structural fill or settlement-sensitive structures. Where placed on slopes, these undocumented fills are subject to downslope movement (creep, sliding or shallow debris flows). Undocumented fill requires removal and replacement by compacted fill. The undocumented fill soil would be suitable for reuse as compacted fill provided deleterious material including construction debris, vegetation, and trash is removed.

b. Topsoil and Slopewash (Unmapped)

Topsoil typically blankets the level portions of the CPU area and consists of brown sandy clay to sandy silt. Topsoil is estimated to be approximately 3 feet thick, but localized areas with greater thicknesses may exist. Slopewash is present on sloping areas of the CPU area and consists of light brown to gray sandy clay to sandy silt. It is typically a minimum of 3 feet thick, but can locally be significantly thicker. Topsoil and slopewash materials are soft, loose, and/or expansive in their present condition and require removal and recompaction in areas to receive additional fill and/or support for structures and improvements.

c. Alluvium (Qal)

Alluvial soils are mapped at the floor of canyon drainages. The alluvial soils generally consist of soft sandy to silty clay and interfingers or grades with topsoil and slopewash along the outer edges of canyons. Depth of alluvial materials is anticipated to range from approximately 5 feet in smaller drainages to in excess of 20 feet in Spring Canyon and other major drainages. The alluvial soils are typically compressible, medium to highly expansive, and require removal and recompaction to provide suitable support for fill placement and/or structural support.

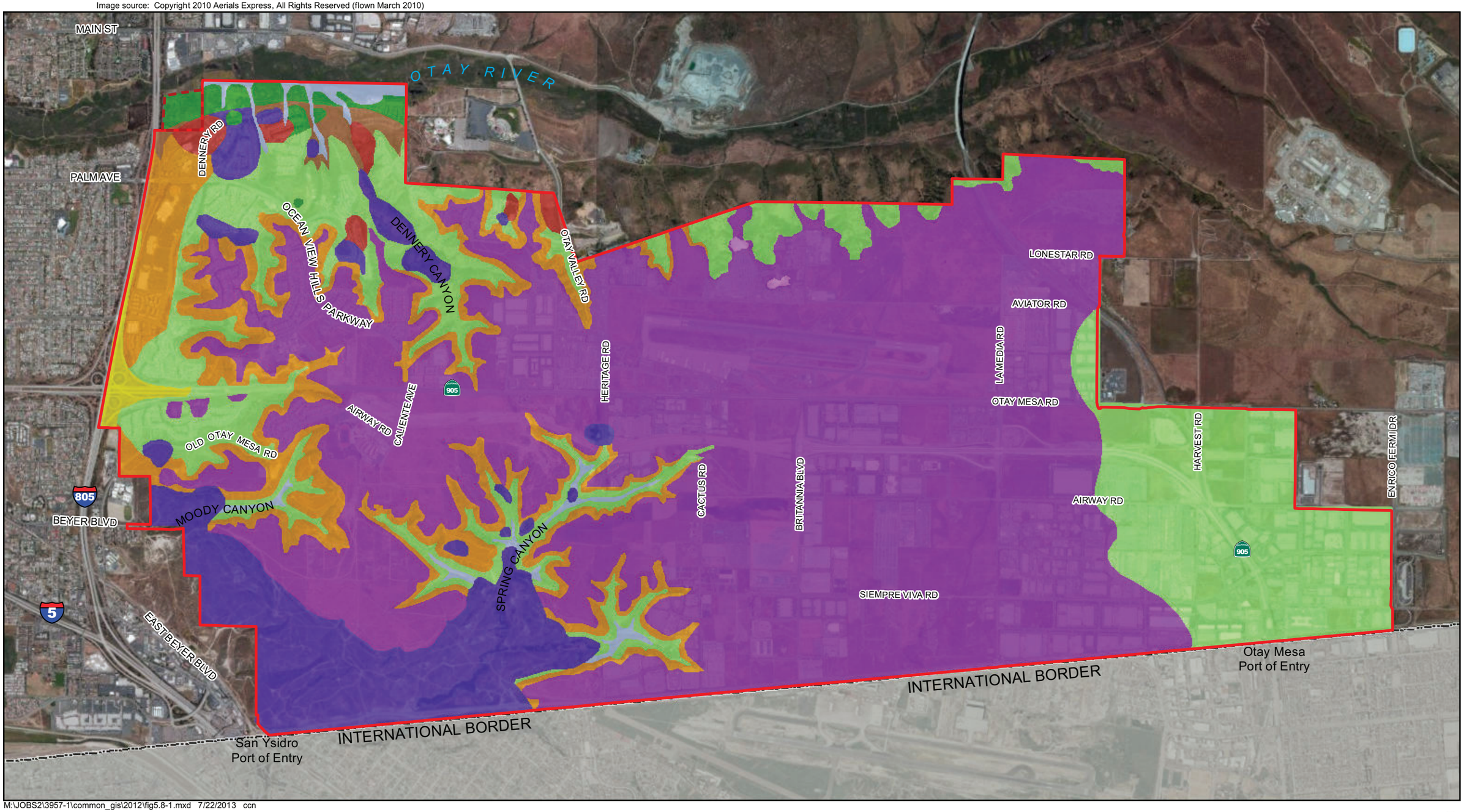
d. Very Old Paralic Deposits (Qvop)

Pleistocene-age Very Old Paralic Deposits (formerly Lindavista Formation) are present across the CPU area. The Very Old Paralic Deposits in the CPU area consist of clay (mudstone) overlying sandstone which grades to a gravel and cobble conglomerate. Thickness of the mudstone unit ranges from approximately 4 feet to 20 feet. Thickness of the sandstone and conglomerate unit is generally less than 30 feet. Cobbles of the conglomerate are commonly exposed on slopes. Geotechnical tests previously performed in the CPU area indicate that the mudstone is highly expansive. The presence of these highly expansive materials, especially if near finished proposed grades, requires special foundations for buildings and mitigation to prevent excessive soil heave that can damage surface improvements such as sidewalks and pavements.

e. San Diego Formation (Tsd)

The sandstone member of the Pliocene-age San Diego Formation is exposed on slopes of drainages primarily in the western and northwestern portion of the CPU area. The San Diego Formation consists of dense, yellow-brown, fine- to medium-grained, poorly indurated micaceous sandstone. It is readily eroded and forms uniform slopes along the sides of narrow canyons in the CPU area. The San Diego Formation is typically massive, and is considered to be flat lying, which is a favorable geologic structure for gross stability. Materials derived from this formation are low expansive and have relatively good shear strength characteristics and, as such, can provide good capping materials

Image source: Copyright 2010 Aerials Express, All Rights Reserved (flown March 2010)



M:\JOBS2\3957-1\common_gis\2012\fig5.8-1.mxd 7/22/2013 ccn

Otay Mesa Community Plan Boundary
Not A Part

Geological Formation

- Qal
- Qls
- Qls?
- Qpf
- Qt
- Qudf
- Qvop
- Tmv
- To
- Tsd

0 Feet 2,500

FIGURE 5.8-1
Geologic Map

THIS PAGE IS INTENTIONALLY BLANK.

for pads and higher strength soils for construction of fill slopes. Portions of the San Diego Formation are cohesionless and erode readily.

f. Otay Formation (To)

Pliocene-age Otay Formation underlies the San Diego Formation. It is older than the San Diego Formation and is generally distinguished from the San Diego Formation by an increase in clay content within the deposit and isolated bentonite claystone beds. The bentonite beds are waxy and composed almost entirely of montmorillinitic clay. The bentonitic materials are very highly expansive, have very low shear strength, and are considered to be the main cause of the large landslide complex (San Ysidro Landslide) along the western edge of the CPU area. The Otay Formation consists of a dense to very dense upper sandstone unit that has a light gray color. A coarser-grained grit stone member underlies the sandstone at depth. The Otay Formation is generally flat-lying or nearly horizontally bedded, which is favorable for overall stability.

g. Groundwater

No indications of natural springs or seeps were observed during the field reconnaissance or encountered in previous geotechnical subsurface studies conducted by Geocon within the CPU area. Near surface groundwater (less than 20 feet deep) also is unlikely to occur in geologic formations within the CPU area. Subsurface water may be present at depth in alluvial soils deposited in drainage channels. However, it is anticipated that the subsurface water is relatively shallow in drainages and has intermittent response to seasonal rainfalls. Ponded water was observed west of Heritage Road and south of Otay Mesa Road and is believed to be impounded surface runoff.

h. Erosive Soils

Soils within the CPU area have moderate to severe erosion susceptibility, with the majority of the soil types exhibiting severe erosion characteristics (United States Department of Agriculture 1973).

5.8.1.2 Geologic Hazards

a. Landslides (Qls)

A complex of deep-seated landslides known as the San Ysidro Landslide is present in the western and southern edges of the CPU area (Figure 5.8-2). At this location there are a series of landslides that have increased in size and complexity with refined mapping. Apparent landslide debris was found to at least 100 feet below the ground surface, placing the bottom of the landslides below present sea level and indicating an ancient and complex history of movement.

Numerous smaller landslides are present on steep drainage slopes. These landslides likely vary in depth from less than 10 feet to more than 80 feet. The landslides are expected to have an incoherent broken internal structure and are susceptible to continued movement, particularly where destabilized by undercutting, placement of additional loads (fill), or introduction of soil moisture.

b. Faulting

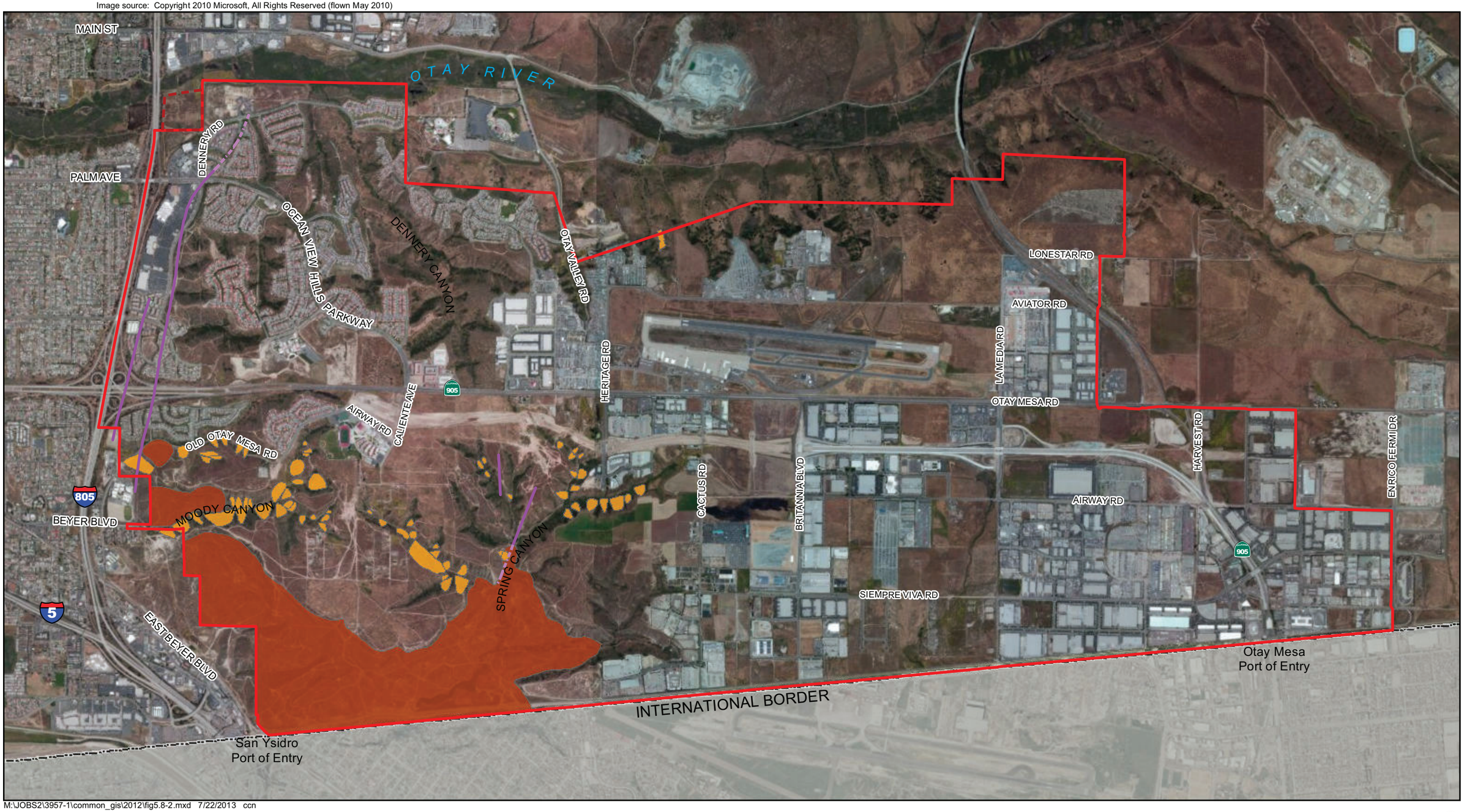
Review of published geologic literature indicates that the CPU area is located on the east margin of the La Nación Fault Zone (LNFZ). The LNFZ is characterized by north-trending faults. Figure 5.8-2 shows the geologic hazards in the CPU area. Figure 5.8-3 shows the CPU area from the City of San Diego Seismic Safety Study. Several faults traverse the CPU area including discontinuous faults that cross areas in the headwaters of Spring Canyon in the southwestern portion of the CPU area. The presence and existence of faults in the CPU area and an intersecting northwest-trending fault zone (not shown) named the San Ysidro Fault has been refined through published literature and specific geotechnical investigations. However, the presence of faults forming the San Ysidro Fault Zone is unclear. The bulk of the evidence points to landslide-scarps, rather than fault-scarps for this zone. Fault strands of the north-striking LNFZ are considered to be potentially active.

The nearest known active fault is the Rose Canyon Fault Zone, located approximately 9.4 miles to the west. The Rose Canyon Fault is the dominant source of potential ground motion at the site. The CPU area would be subjected to moderate to severe ground shaking in the event of a major earthquake on any Rose Canyon Fault or other faults in southern California. With respect to seismic shaking, the CPU area is considered comparable to the surrounding developed area.

c. Liquefaction Potential

Liquefaction typically occurs in a zone with seismic activity, where soils are relatively cohesionless, groundwater is encountered within 50 feet of the surface, and soil relative densities are less than about 70 percent. If all four criteria are met, a seismic event could result in a rapid pore-water pressure increase from earthquake-generated ground accelerations thereby resulting in soil liquefaction. The potential for liquefaction and seismically induced settlement occurring for the mesa top areas is considered very low due to the very dense cemented condition of the geologic formations and lack of groundwater.

Image source: Copyright 2010 Microsoft, All Rights Reserved (flown May 2010)



M:\JOBS2\3957-1\common_gis\2012\fig5.8-2.mxd 7/22/2013 ccn

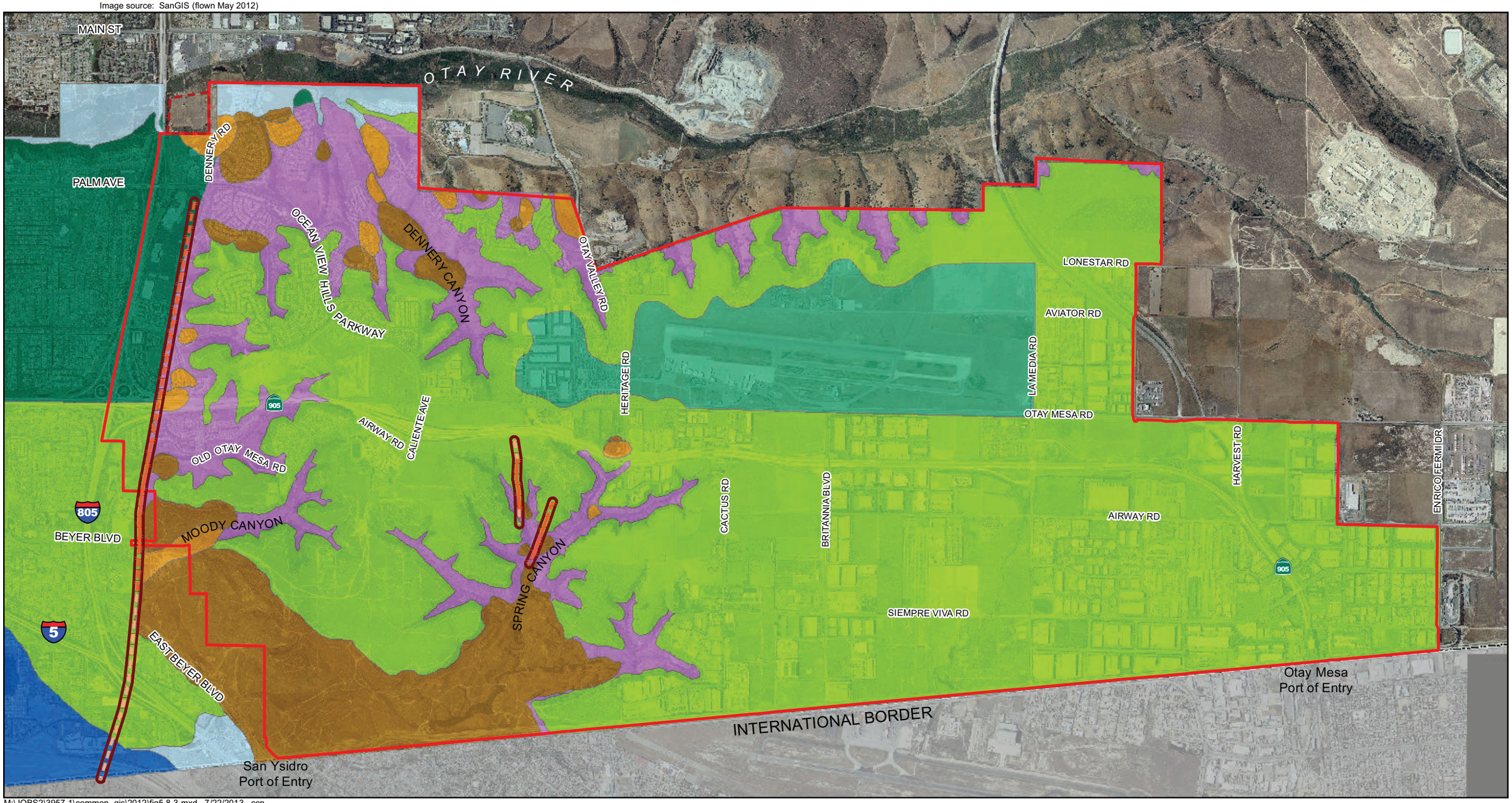
Otay Mesa Community Plan Boundary
Not A Part
Mapped Landslide Zone
Suspected Landslide Zone
Fault Line
Buried Fault Line

0 Feet 2,500

FIGURE 5.8-2
Geologic Hazards

THIS PAGE IS INTENTIONALLY BLANK.

Image source: SanGIS (flown May 2012)



M:\JOBS2\3957-1\common_gis\2012\fig5.8-3.mxd 7/22/2013 ccn

Otay Mesa Community Plan Boundary

Not A

Seismic Safety Data

Land Slides

- Confirmed, known, or highly suspected
- Possible or conjectured

Liquifaction Zones

- High Potential-shallow groundwater major drainages, hydraulic fills
- Low Potential-fluctuating groundwater minor drainages, hydraulic fills

Other Conditions

- Level mesas-underlain by terrace deposits and bedrock, nominal risk
- Level or sloping terrain, unfavorable geologic structure, low to moderate risk
- Other level areas; gently sloping to steep terrain, favorable geologic structure low risk

Slide Prone Formations

- Otay, Sweetwater and others

Fault Zones

- Potentially Active, Inactive, Presumed Inactive, or Activity Unknown

Faults

- Defined Fault
- Inferred Fault
- Concealed Zone

0 Feet 2,500

FIGURE 5.8-3

City of San Diego Seismic Safety Hazards

THIS PAGE IS INTENTIONALLY BLANK.

Potentially liquefiable deposits exist in deeper alluvium areas such as the Otay River Valley or the Tijuana River Valley, respectively, to the north and south (with the exception of a narrow area in the extreme northwestern quadrant) outside of the CPU area. Subsurface exploration and laboratory testing would be necessary at the future project-level to evaluate liquefaction potential of the alluvium if future development extends into those areas or any other areas where deep alluvial deposits are encountered.

d. Tsunamis and Seiches

The CPU area is not located near the ocean or downstream of any large bodies of water. Therefore, the risk associated with inundation by tsunamis or seiches is low.

e. Subsidence

Based on the subsurface soil conditions encountered during the field investigation and the lack of groundwater extraction, the risk associated with ground subsidence hazard is low throughout the CPU area.

5.8.1.3 Regulatory Setting

a. Earthquake Fault Zoning Act (Alquist-Priolo Act)

The State of California Alquist-Priolo Earthquake Fault Zoning Act (1972) was established to mitigate the hazard of surface faulting to structures for human occupancy. Pursuant to the act, the state geologist has established regulatory zones (known as earthquake fault zones) around surface traces of active faults. These have been mapped for affected cities, including San Diego. A detailed geologic investigation must be prepared prior to receiving a permit in an area extending between 200 and 500 feet on both sides of known potentially and recently active earthquake fault zone traces.

b. California Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act was passed by the state in 1990 and contains seismic safety standards. The act includes non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides. There are no seismic hazard maps that have been completed by the state for the County of San Diego.

c. California Building Code/California Residential Code

Slope instability or erosion problems in the City are primarily regulated through the California Building Code (CBC) and the City's Grading Regulations contained in the Land Development Code. The CBC requires special foundation engineering and investigation of soils on proposed development sites located in geologic hazard areas; the results of which would be disclosed in a report prepared in accordance with the

City's Geotehncial Report Guidelines in the Land Development Manual. The report must demonstrate either that the hazard presented by the project would be eliminated or that there is no danger for the intended use. The CBC also contains design and construction regulations pertaining to seismic safety for buildings. These regulations cover issues such as ground motions, soil classifications, redundancy, drift, and deformation compatibility.

The CBC is part of the CCR, Title 24 Part 2. The California Residential Code (CRC) will become part of the CCR, Title 24 Part 2.5. The CBC and CRC are based on the 2006 International Building Code and International Residential Code. The CBC and CRC are a compilation of three types of building standards from three different origins:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes.
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions.
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns.

The CBC is updated periodically. On January 1, 2010, the 2010 CBC and CRC became effective. The CBC and CRC contain seismic safety standards outlining design and construction requirements. Development projects must show compliance with the CBC and/or CRC through the development review process. Building permits are submitted and reviewed for compliance prior to obtaining necessary construction and building permits.

d. City of San Diego Seismic Safety Study

The City of San Diego Seismic Safety Study (SDSSS) is a series of maps indicating likely geologic hazards throughout the City. The maps do not provide site-specific information; they are used as a guide to determine relative risk. The SDSSS identifies areas prone to liquefaction and earthquake-induced landslides as a Zones of Required Investigation, which require a report of the geotechnical condition prior to obtaining a permit (City of San Diego 2009). The level of geotechnical analysis required for project review is dependent on the following:

- The type of permit being sought (e.g., land planning, land development, and/or building);
- Geological Hazard Category;
- The building type/land use group; and
- Relative Risk.

e. City of San Diego General Plan Policies

The City's General Plan presents goals and policies for geologic and soil safety in the Public Facilities, Services, and Safety Element. Relevant excerpts from this element are included in Table 5.8-1 below.

TABLE 5.8-1
PUBLIC FACILITIES, SERVICES, AND SAFETY ELEMENT POLICIES RELATING TO GEOLOGY AND SOILS

Policy	Description
PF-Q.1	Protect public health and safety through the application of effective seismic, geologic and structural considerations. a. Ensure that current and future community planning and other specific land use planning studies continue to include consideration of seismic and other geologic hazards. This information should be disclosed, when applicable, in the California Environmental Quality Act document accompanying a discretionary action. b. Maintain updated citywide maps showing faults, geologic hazards, and land use capabilities, and related studies used to determine suitable land uses. c. Require the submission of geologic and seismic reports, as well as soils engineering reports, in relation to applications for land development permits whenever seismic or geologic problems are suspected. d. Utilize the findings of a beach and bluff erosion survey to determine the appropriate rate and amount of coastline modification permissible in the City. e. Coordinate with other jurisdictions to establish and maintain a geologic "data bank" for the San Diego area. f. Regularly review local lifeline utility systems to ascertain their vulnerability to disruption caused by seismic or geologic hazards and implement measures to reduce any vulnerability. g. Adhere to state laws pertaining to seismic and geologic hazards.
PF-Q.2	Maintain or improve integrity of structures to protect residents and preserve communities. a. Abate structures that present seismic or structural hazards with consideration of the desirability of preserving historical and unique structures and their architectural appendages, special geologic and soils hazards, and the socio-economic consequences of the attendant relocation and housing programs. b. Continue to consult with qualified geologists and seismologists to review geologic and seismic studies submitted to the City as project requirements. c. Support legislation that would empower local governing bodies to require structural inspections for all existing pre-Riley Act (1933) buildings, and any necessary remedial work to be completed within a reasonable time.

SOURCE: City of San Diego General Plan Public Facilities Services and Safety Element 2008.

5.8.2 Significance Determination Thresholds

Based on the City's Significance Determination Thresholds, impacts related to geology and soils would be significant if the CPU would:

1. Expose people or property to geologic hazards such as earthquakes, landslides, mudslides, liquefaction, ground failure, or similar hazards; or

2. Increase the potential for erosion of soils on- or off-site.

5.8.3 Issue 1: Geologic Hazards

Would the CPU expose people or property to geologic hazards such as earthquakes, landslides, mudslides, liquefaction, ground failure, or similar hazards?

5.8.3.1 Impacts

The western and southern edges of the planning area are within a moderate to high geotechnical and relative risk area (General Plan Figure PF-9). This area includes a complex of deep-seated landslides and several discontinuous faults. Therefore, the CPU contains the following policy relative to geologic hazards:

Policy 6.10-1 Allow clustering of development in the southwestern area to mitigate and avoid risks posed by seismic conditions and landslides.

Unstable geologic conditions found throughout the CPU area would expose people or property to hazards if they were not properly remediated. Soil and geologic conditions that would impact future development in the CPU area include:

- San Ysidro Landslide along the south and west side of Otay Mesa;
- Suspected landslides along canyon drainages;
- La Nación Fault Zone;
- Compressible surficial soils (undocumented fill, alluvium, colluvium and topsoil); and
- Highly expansive clays in the upper portion of the Lindavista Formation.

Potential impacts associated with each of these issues are described below. Groundwater, tsunamis, seiches and subsidence were found not to pose substantial geological constraints to future development within the CPU area.

a. San Ysidro Landslide

Deep landslides (Qls) in the west and southwest portion of the CPU area have been confirmed during the geologic reconnaissance. The landslides are susceptible to continued movement, particularly where destabilized by undercutting, placement of additional loads (fill), or introduction of soil moisture from precipitation or irrigation. The San Ysidro landslide area contains landslide debris in excess of 100 feet deep and is a complex landslide with not only a deep basal failure plane but numerous secondary failures as evidenced by the "hummocky" (ridged) topography. The landslide is extremely large in area (approximately 740 acres), and the toe of the landslide extends westerly to I-5. Given the large area and estimated depth of the landslides, stabilization is essentially infeasible, due to the extensive amount of grading and impacts to environmentally sensitive habitat within the MHPA that would be necessary. Thus, structural/improvement setbacks are recommended where engineered stabilization would not be practical.

The San Ysidro landslide area is designated as Open Space under the CPU. However, Beyer Boulevard is proposed to be extended through the open space from the west end of the CPU area to the mesa top to create a westerly connection with San Ysidro and a direct link to Interstate 5. Infrastructure would likely include underground utilities, roadways, and bridges. The proposed alignment of Beyer Boulevard could, therefore, expose people or property to geologic hazards.

b. Steep Hillside Landslides

Other landslides are likely to be present on steep hillsides of natural drainages. If present, their depths are generally considered to range from 5 feet to 15 feet; however, larger slides could extend to depths exceeding 50 feet. Additionally, although landslide areas are present within the CPU area, the geotechnical report found no evidence of potential rockfall hazards, and no rock stabilization or blasting would be required.

c. Faults

Southern California is one of the most seismically active regions in the United States. The source of most earthquakes felt in the San Diego region is from Imperial Valley and offshore fault systems. The San Andreas Fault is 100 miles east of the CPU area but poses a potential hazard.

The CPU is within a moderate to high geologic risk area. Faults within the immediate CPU area are generally considered to comprise the La Nación Fault Zone. Faults in this zone are considered to be potentially active and would subject the CPU area to moderate to severe ground shaking.

d. Compressible Soils

Portions of the CPU area are underlain by undocumented fill, colluvium/topsoil, and alluvium. These soils are typically loose, dry, and contain rubble, and are unsuitable for support of settlement-sensitive structures. These types of compressible soils on slopes are subject to downslope movement (creep, sliding, or shallow debris flows). For future projects underlain by compressible soils, removal and replacement by compacted fill would be required.

e. Expansive Soils

The clay mudstone strata within the Very Old Paralic Deposits exhibits high to very high expansion potential. The mudstone unit occurs near existing grade over the majority of the CPU area. The presence of the highly expansive soil near grade would be addressed at the project-level for future development within the CPU area.

5.8.3.2 Significance of Impacts

The CPU area contains geologic conditions which would pose significant risks for future development if not properly addressed at the project-level. Unstable conditions relating to compressible soils, landslides, seismicity (faults), and expansive soils represent a potentially significant impact for future development.

5.8.3.3 Mitigation Framework

GEO-1: Impacts associated with geologic hazards shall be mitigated at the project-level through adherence to the City's Seismic Safety Study and recommendations of a site-specific geotechnical report prepared in accordance with the City's Geotechnical Report Guidelines. Impacts shall also be avoided or reduced through engineering design that meets or exceeds adherence to the City's Municipal Code and the California Building Code.

More specifically, compressible soils impacts shall be mitigated through the removal of undocumented fill, colluvium/topsoil, and alluvium to firm the ground. Future development shall also be required to clean up deleterious material and properly moisture, condition, and compact the soil in order to provide suitable foundation support.

Regarding impacts related to expansive soils, future development shall be required to implement typical remediation measures, which shall include placing a minimum 5-foot cap of low expansive (Expansion Index [EI] of 50 or less) over the clays; or design of foundations and surface improvements to account for expansive soil movement.

5.8.3.4 Significance After Mitigation

Future development implemented in accordance with the CPU would be required to comply with the recommendations included in a geotechnical report prepared in accordance with City Geotechnical Report Guidelines, the CBC, and the LDC, and be designed satisfactory to the City Engineer. Implementation of the GP and CPU policies, compliance with established development and engineering standards, as well as strict adherence to the Mitigation Framework detailed in GEO-1, which requires regulatory compliance as noted above, would ensure that impacts related to geological hazards would be reduced to below a level of significance.

5.8.4 Issue 2: Erosion

Would the land use and circulation modifications proposed in the CPU increase the potential for erosion of soils on- or off-site?

5.8.4.1 Impacts

Implementation of the CPU would have the potential to result in substantial short-term soil erosion or loss of topsoil. The San Diego formation is exposed on slopes of drainages in the western and northwestern regions of the CPU area. This formation is composed of sandstone material and erodes readily due to its cohesionless nature. Erosion on drainage slopes in Tijuana River Valley and the Otay River Valley could also cause downstream sedimentation impacts. Other related impacts resulting from substantial short-term erosion or loss of topsoil include topography changes and the creation of impervious surfaces within the CPU area.

Additionally, grading activities associated with future development would disrupt soil profiles, thereby resulting in an increased exposure of soils to wind and rain, which are erosive forces. Landscape planting and maintenance implemented soon after construction of slopes would minimize potential erosion associated with future development.

5.8.4.2 Significance of Impacts

Based on the steep nature of many of the hillsides and the generally poorly consolidated nature of the sedimentary materials and soils found throughout the CPU area, erosion would represent a potentially significant impact, particularly in conjunction with some portions of the San Diego Formation and in drainages and stream valleys.

5.8.4.3 Mitigation Framework

GEO-2: As part of the future development permitting process, the City shall require individual projects to adhere to the Grading Regulation and NPDES permit requirements. All subsequent projects developed in accordance with the CPU shall also adhere to the California Building Code to avoid or reduce geologic hazards to the satisfaction of the City Engineer.

Submittal, review and approval of site specific geotechnical investigations shall be completed in accordance with the City's Municipal Code requirements. Engineering design specifications based on future project-level grading and site plans shall be incorporated into all future projects implemented in accordance with the CPU to minimize hazards associated with site-level geologic and seismic conditions satisfactory to the City Engineer and shall include the following measures to control erosion during and after grading or construction:

- Desilting basins, improved surface drainage, or planting of ground covers installed early in the improvement process in areas that have been stripped of native vegetation or areas of fill material;
- Short-term measures, such as sandbag placement and temporary detention basins;
- Restrictions on grading during the rainy season (November through March), depending on the size of the grading operation, and on grading in proximity to sensitive wildlife habitat; and
- Immediate post-grading slope revegetation or hydroseeding with erosion-resistant species to ensure coverage of the slopes prior to the next rainy season.

Conformance to mandated City grading requirements shall ensure that future grading and construction operations would avoid significant soil erosion impacts. Furthermore, any development involving clearing, grading, or excavation that causes soil disturbance of one or more acres, or any project involving less than one acre that is part of a larger development plan, shall be subject to NPDES General Construction Storm Water Permit provisions. Additionally, any development of this significant size within the City shall be required to prepare and comply with an approved SWPPP that shall consider the full range of erosion control BMPs such as, but not limited to, including any additional site-specific and seasonal conditions. Project compliance with NPDES requirements would significantly reduce the potential for substantial erosion or topsoil loss to occur in association with new development.

Prior to obtaining grading permits for future actions a site-specific geotechnical investigation shall be completed as necessary in accordance with the City of San Diego Guidelines for Preparing Geotechnical Reports. Engineering design specifications based on project-level grading and site plans shall be incorporated into the project design to minimize hazards associated with site-level geologic and seismic conditions satisfactory to the City Engineer. Measures designed to reduce erosion at the project-level shall include the following:

- Control erosion by minimizing the area of slope disturbance and coordinate the timing of grading, resurfacing, and landscaping where disturbance does occur.

- On sites for industrial activities require reclamation plans that control erosion, where feasible, in accordance with the LDC.

- Control erosion caused by storm runoff and other water sources.

- Preserve as open space those hillsides characterized by steep slopes or geological instability in order to control urban form, insure public safety, provide aesthetic enjoyment, and protect biological resources.

- Replant with native, drought-resistant plants to restore natural appearance and prevent erosion.

- Practice erosion control techniques when grading or preparing building sites.

- Utilize ground cover vegetation when landscaping a development in a drainage area to help control runoff.

- Incorporate sedimentation ponds as part of any flood control or runoff control facility.

- During construction, take measures to control runoff from construction sites. Filter fabric fences, heavy plastic earth covers, gravel berms, or lines of straw bales are a few of the techniques to consider.

- Phase grading so that prompt revegetation or construction can control erosion. Only disturb those areas that will later be resurfaced, landscaped, or built on. Resurface parking lots and roadways as soon as possible, without waiting until completion of construction.

- Promptly revegetate graded slopes with groundcover or a combination of groundcover, shrubs, and trees. Hydroseeding may substitute for container plantings. Groundcovers shall have moderate to high erosion control qualities.

- Where necessary, design drainage facilities to ensure adequate protection for the community while minimizing erosion and other adverse effects of storm runoff to the natural topography and open space areas.

- Ensure that the timing and method of slope preparation protects natural areas from disturbance due to erosion or trampling. The final surface shall be compacted and spillovers into natural areas shall be avoided.

- Plant and maintain natural groundcover on all created slopes.

When required, the geologic technical report shall consist of a preliminary study, a geologic reconnaissance, or an in-depth geologic investigation report that includes field work and analysis. The geologic reconnaissance report and the geologic investigation report shall include all pertinent requirements as established by the Building Official.

In addition, the Building Official shall require a geologic reconnaissance report or a geologic investigation report for any site if the Building Official has reason to believe that a geologic hazard may exist at the site.

Section 145.1802 of the San Diego Municipal Code discusses in more detail the requirements related to the geotechnical report outlined in the SDSSS (City of San Diego 2009).

5.8.4.4 Significance After Mitigation

Future development implemented in accordance with the CPU would be required to comply with the recommendations included in a geotechnical report prepared in accordance with City Geotechnical Report Guidelines, the CBC, the LDC and be designed satisfactory to the City Engineer. Implementation of the GP and CPU policies, compliance with established development and engineering standards, as well as strict adherence to the Mitigation Framework detailed in GEO-2, which requires regulatory compliance as noted above, would ensure that impacts related to an increase in the potential for erosion of soil, on or off-site, would be reduced to below a level of significance.

5.9 Energy Conservation

Public Resources Code Section 21100(b)(3) and CEQA Guidelines Section 15126.4 require EIRs to analyze energy use and conservation as it is applicable to the proposed project, and in particular to describe any wasteful, inefficient, and unnecessary consumption of energy caused by a project, along with a description of feasible mitigation measures.

The analysis of energy conservation consists of a summary of the energy regulatory framework, the existing conditions within the CPU area, a discussion of the CPU's potential impacts on energy resources, and identification of the CPU design features/policy framework or mitigation measures that may reduce energy consumption. This section evaluates potential impacts to energy conservation in accordance with Appendix F of the CEQA Guidelines and federal, state, and regional regulations.

5.9.1 Existing Conditions

5.9.1.1 San Diego Gas and Electric

San Diego Gas and Electric (SDG&E) is the owner and operator of natural gas and electricity transmission and distribution infrastructure in San Diego County. SDG&E is regulated by the California Public Utilities Commission (CPUC), which is responsible for making sure that California utilities' customers have safe and reliable utility service at reasonable rates and sets the gas and electricity rates for SDG&E. The energy needs of future projects within the CPU area would be supplied through the various combinations of energy resources available within the CPU area, and involving the anticipated future energy resource use patterns discussed in this section.

Table 5.9-1 lists SDG&E's current energy sources. As shown, SDG&E uses biomass, geothermal, hydroelectric, solar, and wind sources and obtained 10 percent of its energy from renewable resources in 2009. As directed by the California Renewables Portfolio Standard in Senate Bill 1078, SDG&E and other statewide energy utility providers are targeted to achieve a 33 percent renewable energy mix by 2020. Currently, nearly 11 percent of SDG&E's renewables procurement is from resources located in San Diego County. The remainder is from renewable energy sources located in Riverside, Orange, and Kern counties (SDG&E 2010a).

TABLE 5.9-1
SDG&E POWER CONTENT LABEL

Energy Source	SDG&E 2009 Power Mix* (actual)
Renewables	10%
Biomass and waste	3%
Geothermal	<1
Small hydroelectric	<1%
Solar	<1%
Wind	7%
Coal	7%
Large Hydroelectric	3%
Natural Gas	62%
Nuclear	18%
TOTAL	100%

SOURCE: SDG&E October 2010b.
*86 percent of SDG&E 2009 power mix is specifically purchased from individual suppliers; 10 percent of SDG&E 2009 power mix is purchased from individual renewable suppliers.

There are two major electricity generating power plants in San Diego County: the Encina Power Plant and the San Onofre Nuclear Generating Station. The San Onofre Station's two reactors have both been deactivated since January 2012, and a plan to restart one reactor has been submitted to the Nuclear Regulatory Commission. There are also a number of smaller electricity generating plants in the county that are used as backup during times of peak power demand. These in-region assets are currently capable of generating approximately 2,360 megawatts (MW) of electricity, about 55 percent of the region's summer peak demand. However, San Diego's older in-region resources typically run at partial capacity (1,628 MW) due to air quality, high fuel cost, and other reasons.

Power generation and power use are not linked geographically. Electricity generated within the San Diego region is not dedicated to users in the SDG&E service area. Instead, electricity generated in the county is fed into the statewide utility grid and made generally available to users statewide. SDG&E purchases electricity from this statewide grid, through various long-term contracts.

Natural gas is also imported into southern California and originates from any of a series of major supply basins located from Canada to Texas. Gas is pumped out and shipped to receipt points that connect with major interstate gas pipelines. The Wheeler receipt point, located near Bakersfield, California, is where SDG&E receives deliveries of Canadian natural gas to be received into the Southern California Gas (SoCalGas) system. SDG&E currently purchases nearly 80 percent of its electricity and natural gas needs from out-of-region energy sources.

There is an existing SDG&E substation located south of SR-905 near the western boundary of the CPU area.

5.9.1.2 Regulatory Setting

The following regulations and guidelines provide the framework for energy conservation. According to the majority of these programs and their requirements, the increased and growing demands for non-renewable energy supplies are best addressed through conservation.

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the U.S. Department of Transportation (DOT), the U.S. Department of Energy (DOE), and the U.S. EPA are three federal agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy-related research and development projects, and through funding for transportation infrastructure improvements.

On the state level, the CPUC and California Energy Commission (CEC) are two agencies with authority over different aspects of energy. The CPUC regulates privately owned utilities in the energy, rail, telecommunications, and water fields. The CEC collects and analyzes energy-related data, prepares statewide energy policy recommendations and plans, promotes and funds energy efficiency programs, has permitting authority, and adopts and enforces appliance and building energy efficiency standards.

a. Federal

Federal Energy Policy and Conservation Act and Amendments

Minimum standards of energy efficiency for many major appliances were established by the U.S. Congress in the federal Energy Policy and Conservation Act (EPCA) of 1975, and have been subsequently amended by succeeding energy legislation, including the federal Energy Policy Act of 2005. The DOE is required to set appliance efficiency standards at levels that achieve the maximum improvement in energy efficiency that is technologically feasible and economically justified.

Corporate Average Fuel Economy Standards

The federal Corporate Average Fuel Economy (CAFE) standard determines the fuel efficiency of certain vehicle classes in the United States. In 2007, as part of the Energy and Security Act of 2007, CAFE standards were increased for new light-duty vehicles to 35 miles per gallon (mpg) by 2020. In May 2009, President Obama announced further plans to increase CAFE standards to require light duty vehicles to meet an average fuel economy of 35.5 mpg by 2016. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 established new standards for a few equipment types not already subjected to a standard, and updated some existing standards. The Energy Independence and Security Act includes new standards for general service lighting, which will be deployed in two phases. First, by 2012–2014 (phased over several years), common light bulbs will be required to use about 20–30 percent less energy than present incandescent bulbs. Second, by 2020, light bulbs must consume 60 percent less energy than today's bulb; this requirement will effectively phase out the incandescent light bulb.

b. State

State Standards Addressing Vehicular Emissions

California Assembly Bill 1493 (Pavley), enacted on July 22, 2002, directed CARB to adopt regulations to reduce greenhouse gases (GHG) emitted by passenger vehicles and light duty trucks. CARB adopted regulations in 2004, but due to legal delays was not granted the authority by the EPA to proceed until 2009. The adopted regulations apply to the vehicle manufacture of 2009 and later model year vehicles. CARB estimates that the regulations will reduce GHG emissions from light duty passenger vehicles by an estimated 18 percent in 2020 and by 27 percent in 2030 (Association of Environmental Professionals [AEP] 2007). GHG reductions would result from improved vehicle design that includes small engines with superchargers, continuously variable transmissions, and hybrid electric drives. These types of vehicle design would further improve fossil fuel economy, allowing harmonization with the federal rules and CAFE standards for passenger/light duty vehicles.

California Code of Regulations Title 24, Part 6 California Energy Code

All new construction in California must meet Title 24 energy standards (CEC 2008). Title 24, which provides energy efficiency standards for residential and nonresidential buildings, was established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to incorporate new energy efficiency technologies and methods. For example, the current Title 24 standards achieve a minimum 15 percent reduction in the combined space heating, cooling, and water heating energy compared to the previous 2005 Title 24 energy standards.

California Code of Regulations Title 24, Part 11 California Green Building Code

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11 in 2009, and became effective January 1, 2011. This code institutes mandatory minimum environmental performance standards that include the same energy efficiency requirements as Part 6 of Title 24, with optional Tier I and II standards for even

greater energy efficiency. The code also mandates a 20 percent reduction in indoor water use, with voluntary goals and incentives for projects achieving 30 percent and over reduction. Because the provision of water involves large amounts of energy consumption, reduced water consumption would result in reduced energy demand.

Energy Action Plan

The state Energy Action Plan (2003, updated in 2008) was approved by the CPUC, the CEC, and the California Power Authority. The goal of the Energy Action Plan is to ensure that adequate, reliable, and reasonably priced electrical power and natural gas supplies, including prudent reserves, are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers (State of California 2008).

c. Regional

SDG&E Long-term Resource Plan

In 2004, SDG&E filed a long-term energy resource plan (LTRP) with the CPUC, which identifies how it will meet the future energy needs of customers in SDG&E's service area. The LTRP identifies several energy demand reduction (i.e., conservation) targets, as well as goals for increasing renewable energy supplies, new local power generation, and increased transmission capacity.

Consistent with Senate Bill 1078, the goals for increased renewable energy supplies in the 2004 LTRP call for acquiring 20 percent of SDG&E's energy mix from renewables by 2010 and 33 percent by 2020. This bill requires the state's three investor-owned utilities, including SDG&E, to increase their purchases of power generated from renewable resources in order to reduce reliance on fossil fuels and to reduce GHG emissions.

The LTRP also calls for greater use of in-region energy supplies, including renewable energy installations. By 2020, the LTRP states that SDG&E intends to achieve and maintain the capacity to generate 75 percent of summer peak demand with in-county generation. The LTRP also identifies the procurement of 44 percent of its renewables to be generated and distributed in-region by 2020.

5.9.2 Significance Determination Thresholds

Section 15126.4 (a)(1) of the CEQA Guidelines states that an EIR shall describe feasible measures which could minimize significant adverse impacts, including, where relevant, the inefficient and unnecessary consumption of energy.

CEQA Guidelines, Appendix F, Energy Conservation, provides guidance for EIRs regarding potential energy impacts of proposed projects, with particular emphasis on avoiding or

reducing the inefficient, wasteful, and unnecessary consumption of energy. The Resources Agency amended Appendix F to make it clear that an energy analysis is mandatory. However, the Resources Agency also clarified that the energy analysis is limited to effects that are applicable to the project (Resources Agency 2009). Furthermore, Appendix F is not described as a threshold for determining the significance of impacts. Appendix F merely seeks inclusion of information in the EIR to the extent relative and applicable to the project.

Based on the City's Significance Determination Thresholds for the purpose of this EIR, impacts to energy resources would be significant if the CPU would:

- Result in the use of excessive amounts of electric power, fuel, or other forms of energy (e.g., natural gas, oil) during its construction or long-term operation.

5.9.3 Issue: Energy

Would the CPU result in the use of excessive amounts of electricity or fuel and other forms of energy (e.g., natural gas, oil)?

5.9.3.1 Impacts

Because the proposed action is the adoption of a plan and does not specifically address any particular development project(s), impacts to energy resources are addressed generally, based on projected buildout of the CPU. Implementation of the CPU has the potential to result in impacts to energy supply due to the development that is anticipated to occur in response to projected population growth. Depending on the types of future uses, impacts would need to be addressed in detail at the time specific projects are proposed. At a minimum, future projects implemented in accordance with the CPU would be required to meet the mandatory energy standards of the current California energy code (Title 24 Building Energy Standards of the California Public Resources Code).

Energy resources would be consumed during construction of future development in conformance with the CPU. Energy also would be consumed to provide operational lighting, heating, cooling, and transportation for future development.

a. Construction-Related Energy Consumption

Grading and construction activities consume energy through the operation of heavy off-road equipment, trucks, and worker traffic. At the program-level, it is too speculative to quantify total construction-related energy consumption of future development, either in total or by fuel type. The majority of energy to be used in conjunction with construction activities would be supplied by SDG&E.

Policy 4.9-2 of the CPU Urban Design Element encourages new development and redevelopment proposals to incorporate environmentally conscious building practices and

materials and use recycled and reused construction materials. Additionally, in compliance with the City's Construction and Demolition Debris Deposit Ordinance, future development would be required to develop waste management plans targeting at least 75% waste reduction.

Energy used during future construction of the planned land uses would not be considered significant given the short-term nature of the energy consumption. Even though exact details of the projects implemented in accordance with the CPU are not known at this time, there are no conditions in the CPU area that would require non-standard equipment or construction practices that would increase fuel-energy consumption above typical rates. Therefore, the CPU would not result in the use of excessive amounts of fuel or other forms of energy during the construction of future projects under the CPU.

b. Long-Term Operational-Related Energy Consumption

SDG&E would provide gas and electricity to the CPU area. Because the proposed action is the adoption of a plan and does not specifically address any particular development project, impacts to energy resources can only be addressed generally, based on planned growth.

CalEEMod was used to estimate energy use for residential and non-residential uses, basing consumption on number of residential units and non-residential square footage. Table 5.9-2 below shows the estimated energy consumption in terms of natural gas and electricity for the CPU, compared to the existing condition (as built). As shown, buildout of the CPU would result in more natural gas and electricity consumption when compared to the existing condition.

TABLE 5.9-2
ESTIMATED ENERGY CONSUMPTION

Land Use Plan	Natural Gas (annual kBTU)	Electricity (annual kWh)
Existing (As-Built)	6.54E+08	4.51E+08
CPU	1.15E+09	7.72E+08

SOURCE: Air Quality Analysis, RECON 2012 (Appendix C of this PEIR).
kBTU = thousand British Thermal Units; kWh = kilowatt hours

Depending on the types of future uses, impacts would need to be addressed in detail at the time specific projects are proposed. At a minimum, future projects under the CPU would be required to meet the mandatory energy standards of the current California energy code (Title 24 Building Energy Standards of the California Public Resources Code). Some efficiencies associated with the Energy Standards under Title 24 include the building heating, ventilating, and air conditioning (HVAC) mechanical system, water heating system, and lighting system. Additionally, rebate and incentive programs that promote the installation and use of energy efficient plug-in appliances and lighting would be available, but not covered under Title 24.

Future projects would be required to comply with the CPU Urban Design Element which contains a list of Climate Change and Sustainable Development Policies that focus on designing new development to have a climate, energy efficient, and environmentally oriented site design (Policy 4.9-1), incorporating environmentally conscious building practices and materials (Policy 4.9-2), minimizing building heat gain and appropriately shading windows (Policy 4.9-3), providing on-site landscaping improvements that minimize heat gain and provide attractive and context sensitive landscape environments (CPU Policy 4.9-4), and ensuring development integrates storm water BMPs on-site (Policy 4.9-5).

Although these policies would decrease the overall per capita energy use in the CPU area, they would not ensure that energy supplies would be available when needed. Future projects would be subject to review for measures that would further reduce energy consumption in conformance to existing regulations.

The CPU's Conservation Element also sets forth goals to increase building energy efficiency and on-site production of renewable energy. Within the Climate Change and Sustainability section, a policy states that in order to reduce project-level GHG emissions to acceptable levels through project design, application of site-specific mitigation measures or adherence to standardized measures outlined in the City's adopted citywide Climate Action Plan should take place (Policy 8.2.4). A citywide Draft Climate Mitigation and Adaptation Plan (CMAP), dated August 2012, has been developed to provide a mechanism for the City to achieve the goals of Assembly Bill 32 and the CARB Scoping Plan at a program-level. The combination of planned sustainable building techniques and energy efficiency practices would result in a decrease in energy requirements relative to the current energy code (see the GHG Analysis in Appendix N).

Future operational energy use related to roadways would consist of the transportation fuels consumed to transport the CPU area's residents, workers, and visitors. The total estimated daily vehicle trips at full buildout are estimated to be 1,045,025 as detailed in the traffic analysis. The CPU Mobility Element contains policies that would reduce vehicle miles travelled (VMT) and associated fuel consumption. These include policies to improve neighborhood walkability design (Policies 3.1-1 through 3.1-5), expand public transit in the CPU area (Policies 3.2-1 through 3.2-5), and increase bicycle infrastructure and bike riding incentives (Policies 3.4-1 and 3.4-2). The CPU location, within an already urbanized area adjacent to existing and planned public transit service, offers opportunity for transit use and reduced VMT.

5.9.3.2 Significance of Impacts

The CPU would not result in the use of excessive amounts of fuel or other forms of energy during the construction of future projects under the CPU, and construction impacts would be less than significant.

Implementation of the CPU would not be anticipated to result in a need for new electrical systems or require substantial alteration of existing utilities, which would create physical impacts. Based on the program-level analysis of the CPU, state and local mandates for energy conservation, and the energy reduction measures set forth in the CPU policies, impacts associated with energy use would be less than significant.

5.9.3.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation is required.

5.9.3.4 Significance After Mitigation

Impacts would be less than significant.

THIS PAGE IS INTENTIONALLY BLANK.

5.10 Noise

The following analysis is based upon the Noise Technical Report for the Otay Mesa CPU, prepared by RECON in February 2013 (Appendix I). This section evaluates potential noise impacts from future traffic on CPU area roadways, operations at Brown Field and General Abelardo L. Rodriguez International Airport in Tijuana, and other local noise sources.

5.10.1 Existing Conditions

5.10.1.1 Existing Noise Standards

a. Construction Noise

Construction noise is regulated by the City's Municipal Code. Section 59.5.0404 of the Municipal Code, the Noise Abatement and Control Ordinance, states that:

> It shall be unlawful for any person, between the hours of 7:00 P.M. of any day and 7:00 A.M. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington's Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise . . .
>
> . . . it shall be unlawful for any person, including the City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 A.M. to 7:00 P.M.

b. Exterior Noise

General Plan

Noise standards are expressed in community noise equivalent level (CNEL), a 24-hour A-weighted average decibel level [dB(A)] that accounts for frequency correction and the subjective response of humans to noise by adding 5 dB(A) and 10 dB(A) to the evening and nighttime hours, respectively.

The City specifies compatibility standards for different categories of land use in the Noise Element of the General Plan. Table 5.10-1 provides the allowable noise levels by land use as identified in the General Plan (City of San Diego 2008a). As shown, the "compatible" noise level for noise sensitive land uses, including single- and multi-family residential, is 60 CNEL. Compatibility indicates that standard construction methods will

TABLE 5.10-1
LAND USE NOISE COMPATIBILITY GUIDELINES

Land Use Category	Exterior Noise Exposure [CNEL] 60	65	70	75
Open Space, Parks, and Recreational				
Community and Neighborhood Parks; Passive Recreation				
Regional Parks; Outdoor Spectator Sports, Golf Courses; Athletic Fields; Water Recreational Facilities; Horse Stables; Park Maintenance Facilities				
Agricultural				
Crop Raising and Farming; Aquaculture, Dairies; Horticulture Nurseries and Greenhouses; Animal Raising, Maintaining and Keeping; Commercial Stables				
Residential				
Single Units; Mobile Homes; Senior Housing	45			
Multiple Units; Mixed-Use Commercial/Residential; Live Work; Group Living Accommodations	45	45		
Institutional				
Hospitals; Nursing Facilities; Intermediate Care Facilities; Kindergarten through Grade 12 Educational Facilities; Libraries; Museums; Places of Worship; Child Care Facilities	45			
Vocational or Professional Educational Facilities; Higher Education Institution Facilities (Community or Junior Colleges, Colleges, or Universities)	45	45		
Cemeteries				
Sales				
Building Supplies/Equipment; Food, Beverage, and Groceries; Pets and Pet Supplies; Sundries, Pharmaceutical, and Convenience Sales; Wearing Apparel and Accessories		50	50	
Commercial Services				
Building Services; Business Support; Eating and Drinking; Financial Institutions; Assembly and Entertainment; Radio and Television Studios; Golf Course Support		50	50	
Visitor Accommodations	45	45	45	
Offices				
Business and Professional; Government; Medical, Dental, and Health Practitioner; Regional and Corporate Headquarters		50	50	
Vehicle and Vehicular Equipment Sales and Services Use				
Commercial or Personal Vehicle Repair and Maintenance; Commercial or Personal Vehicle Sales and Rentals; Vehicle Equipment and Supplies Sales and Rentals; Vehicle Parking				
Wholesale, Distribution, Storage Use Category				
Equipment and Materials Storage Yards; Moving and Storage Facilities; Warehouse; Wholesale Distribution				
Industrial				
Heavy Manufacturing; Light Manufacturing; Marine Industry; Trucking and Transportation Terminals; Mining and Extractive Industries				
Research and Development			50	

	Compatible	Indoor Uses	Standard construction methods should attenuate exterior noise to an acceptable indoor noise level.
		Outdoor Uses	Activities associated with the land use may be carried out.
	Conditionally Compatible	Indoor Uses	Building structure must attenuate exterior noise to the indoor noise level indicated by the number for occupied areas.
		Outdoor Uses	Feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable.
	Incompatible	Indoor Uses	New construction should not be undertaken.
		Outdoor Uses	Severe noise interference makes outdoor activities unacceptable.

SOURCE: City of San Diego 2008.

attenuate exterior noise to an acceptable indoor noise level and people can carry out outdoor activities with minimal noise interference.

General Plan policies recommend separating excessive noise-generating uses from sensitive land uses with sufficient buffer areas, consulting the guidelines from the table above to assure the appropriateness of proposed development relative to existing uses, and limiting noise-sensitive land uses in areas exposed to high levels of noise.

The CPU includes specific policies for Otay Mesa, and are contained in Table 5.10-2. In particular, the CPU policies address noise that generates from Brown Field, Tijuana International Airport, and the truck traffic associated with industrial uses and international border activity.

TABLE 5-10-2
CPU NOISE ELEMENT POLICIES

Policy	Description
9.1-1	Satisfy all applicable conditions and criteria in the Airport Land Use Compatibility Plan for Brown Field prior to the approval of individual development projects for any proposed building or use located within the Airport Influence Area for Brown Field.
9.1-2	Include the evaluation of noise levels and demonstrate that the existing and future noise levels are considered compatible with the General Plan
9.2-1	Encourage site design techniques for mixed-use village areas that help to reduce the affect of noise from commercial and industrial uses.
9.2-2	Demonstrate that required noise levels for individual development projects within Otay Mesa are considered compatible with the General Plan Noise Land Use Compatibility Guidelines prior to the approval of the project.
9.2-3	Include noise reduction features in the design of any project with noise sources that may affect adjacent and/or sensitive uses.
9.3-1	Work with the California Department of Transportation and affected property owners to place berms or noise walls along State Routes 905, 125, and 11 and Interstate 805 to reduce high noise levels.
9.3-2	Minimize noise impacts to adjacent uses along the Truck Route.

Exterior noise levels ranging between 65 and 70 CNEL are considered “conditionally compatible” for multiple units, mixed-use commercial/residential, live work, and group living accommodations. For single-family units, mobile homes, and senior housing, exterior noise levels ranging between 60 and 65 CNEL are considered “conditionally compatible.” Conditionally compatible uses are permissible, provided interior noise levels will not exceed 45 CNEL. Developments that fall into the “conditionally compatible” noise environment are required to have an acoustical study to demonstrate that they meet noise standards.

Municipal Code

Section 59.5.0101 et seq. of the City's Municipal Code, the Noise Abatement and Control Ordinance, regulates the making and creating of disturbing, excessive, or offensive noises within the City limits. Sound level limits are established for various types of land uses and are measured in one-hour averages. The one-hour, A-weighted equivalent sound level, $L_{eq(1)}$, is the energy average of the A-weighted sound levels occurring during a one-hour period. The Ordinance states that it is unlawful for any person to cause noise by any means to the extent that the one–hour average sound level exceeds the applicable limit given for that land use. The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.

c. Interior Noise

City of San Diego

Noise-sensitive residential/habitable interior spaces have an interior standard of 45 CNEL, as stated in the City's 2011 Significance Determination Thresholds and the California Noise Insulation Standards. The Significance Determination Thresholds indicate that for multi-family development, exterior noise levels would be considered significant if future projected traffic noise would exceed 65 CNEL at exterior usable areas or 45 CNEL interior.

The City considers standard construction techniques to provide a 15 decibel (dB) reduction of exterior noise levels to an interior receiver. Therefore, standard building construction would reduce interior noise levels to 45 CNEL or less when exterior noise sources are 60 CNEL or less. When exterior noise levels are greater than 60 CNEL, consideration of specific non-standard building construction techniques would be required.

California Code of Regulations

Title 24, Chapter 12, Section 1207, of the California Building Code requires that interior noise levels, attributable to exterior sources, not exceed 45 CNEL in any habitable room within a residential structure, other than single-family. (A habitable room in a building is used for living, sleeping, eating or cooking; bathrooms, closets, hallways, utility spaces, and similar areas are not considered habitable spaces.) An acoustical study would be required for proposed multiple-unit residential and hotel/motel structures within areas where the CNEL noise contours exceed 60 dB(A). The studies must demonstrate that the design of the building will reduce interior noise to 45 CNEL or lower in habitable rooms. If compliance requires windows to be inoperable or closed, the structure must include ventilation or air conditioning (24 CCR 1207 2010).

d. ALUCP

As discussed in Section 4.1, the Brown Field airport is within the CPU area. The adopted ALUCP for Brown Field contains policies that limit residential uses in areas experiencing noise above 60 CNEL by placing conditions on new residential uses within the 60 CNEL contour. Table 5.10-3 provides the allowable noise levels by land use.

5.10.1.2 Existing Ambient Noise

The CPU area is subject to various existing noise sources including traffic on circulation element roads, traffic on I-805, aircraft from Brown Field and General Abelardo L. Rodriguez International Airport in Tijuana, and industrial and commercial activities, including associated truck traffic. The following is a discussion of measured noise levels and existing noise sources in the CPU area.

a. Vehicle Traffic Noise

The most heavily traveled roadways in the CPU area are I-805, SR-905, Siempre Viva Road, and Otay Mesa Road. Additionally, because the CPU area consists of many existing commercial and industrial uses, there is a high percentage of heavy truck traffic within the CPU area, including designated truck routes in the CPU area that service these commercial and industrial areas, which include I-805, SR-905, SR-125, Britannia Boulevard, La Media, Enrico Fermi Drive, Siempre Viva Road, and Lone Star Road.

TABLE 5-10-3
BROWN FIELD NOISE COMPATIBILITY CRITERIA

Land Use Category[1] *Note: Multiple categories may apply to a project*	Exterior Noise Exposure (CNEL)			
	60-65	65-70	70-75	75-80
Agricultural and Animal-Related				
Horse stables; livestock breeding or farming	**A**	**A**	**A**	
Nature preserves; wildlife preserves				
Interactive nature exhibits	**A**			
Zoos	**A**	**A**		
Agriculture (except residences and livestock); greenhouses; fishing				**A**
Recreational				
Children-oriented neighborhood parks; playgrounds	**A**			
Campgrounds; recreational vehicle/motor home parks				
Community parks; regional parks; golf courses; tennis courts; athletic fields; outdoor spectator sports; fairgrounds; water recreation facilities		**A**		
Recreation buildings; gymnasiums; club houses; athletic clubs; dance studios		**50**	**50**	
Public				
Outdoor amphitheaters	**A**			
Children's schools (K-12); day care centers (>14 children)	**45**			
Libraries	**45**			
Auditoriums; concert halls; indoor arenas; places of worship	**45**	**45**		
Adult schools; colleges; universities[2]	**45**	**45**		
Prisons; reformatories		**50**		
Public safety facilities (e.g., police, fire stations)		**50**	**50**	
Cemeteries; cemetery chapels; mortuaries		**45** **A**	**45** **A**	
Residential, Lodging, and Care				
Residential (including single-family, multi-family, and mobile homes); family day care homes (≤14 children)	**45**			
Extended-stay hotels; retirement homes; assisted living; hospitals; nursing homes; intermediate care facilities	**45**			
Hotels; motels; other transient lodging[3]	**45**	**45**	**45**	
Commercial and Industrial				
Office buildings; office areas of industrial facilities; medical clinics; clinical laboratories; radio, television, recording studios		**50**	**50**	
Retail sales; eating/drinking establishments; movie theaters; personal services		**50**	**50** **B**	
Wholesale sales; warehouses; mini/other indoor storage			**50** **C**	
Industrial manufacturing; research & development; auto, marine, other sales & repair services; car washes; gas stations; trucking, transportation terminals			**50** **C**	
Extractive industry; utilities; road, rail right-of-ways; outdoor storage; public works yards; automobile parking; automobile dismantling; solid waste facilities				**50** **C**
Animal shelters/kennels	**50**	**50**	**50**	

TABLE 5.10-3
BROWN FIELD NOISE COMPATIBILITY CRITERIA
(continued)

Land Use Acceptability		Interpretation/Comments
	Compatible	Indoor Uses: Standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor community noise equivalent level (CNEL). Outdoor Uses: Activities associated with the land use may be carried out with essentially no interference from aircraft noise.
45 **50**	Conditional[4]	Indoor Uses: Building structure must be capable of attenuating exterior noise to the indoor CNEL indicated by the number, standard construction methods will normally suffice. Outdoor Uses: CNEL is acceptable for outdoor activities, although some noise interference may occur.
A **B** **C**	Conditional[4]	Indoor and Outdoor Uses: A Caution should be exercised with regard to noise-sensitive outdoor uses; these uses are likely to be disrupted by aircraft noise events; acceptability is dependent upon characteristics of the specific use.[5] B Outdoor dining or gathering places incompatible above 70 CNEL. C Sound attenuation must be provided for associated office, retail, and other noise-sensitive indoor spaces sufficient to reduce exterior noise to an interior maximum of 50 CNEL.
	Incompatible	Use is not compatible under any circumstances.

SOURCE: San Diego County Regional Airport Authority 2010.

[1]Land uses not specifically listed shall be evaluated, as determined by the ALUC, using the criteria for similar uses.

[2]Applies only to classrooms, offices, and related indoor uses. Laboratory facilities, gymnasiums, outdoor athletic facilities, and other uses to be evaluated as indicated for those land use categories.

[3]Lodging intended for stays by an individual person of no more than 25 days consecutively and no more than 90 days total per year; facilities for longer stays are in the extended-stay hotel category.

[4]An *aviation easement* is required for any project situated on a property lying within the projected 65 CNEL noise contour. See Policy 2.11.5 and Policy 3.3.3(d).

[5]Noise-sensitive land uses are ones for which the associated primary activities, whether indoor or outdoor, are susceptible to disruption by loud noise events. The most common types of noise-sensitive land uses include, but are not limited to, the following: residential, hospitals, nursing facilities, intermediate care facilities, educational facilities, libraries, museums, places of worship, child-care facilities, and certain types of passive recreational parks and open space.

b. Noise Measurements

Eight 15-minute noise measurements were taken in the CPU area in 2011 and 2012. Measurement locations are shown in Figure 5.10-1.

Measurements 1–5 were taken on June 15, 2011; at this time, SR-905 was under construction. SR-905 now connects the Otay Mesa POE with regional freeways I-5 and I-805. Phase 1 from the Otay Mesa POE to Airway Road was completed at the time of the June 2011 noise measurements. Also completed was the SR-905 link with I-805. The Phase 2 connection to I-805 was completed in 2012. Before the Phase 2 link was completed, traffic traveling on SR-905 was diverted onto Otay Mesa Road. Therefore, SR-905/Otay Mesa Road experienced high traffic volumes including heavy truck traffic at the time of the first noise measurements. Measurements 6-8 were taken after completion of the SR-905.

Measurement 1 was taken adjacent to Ocean View Hills Parkway in the residential area of Otay Mesa. The main source of noise at the measurement location was traffic on Ocean View Hills Parkway. The speed limit on this portion of Ocean View Hills Parkway is 45 miles per hour (mph). The average measured noise level at 40 feet from the centerline of Ocean View Hills Parkway was 72.3 dB(A) L_{eq}.

Measurement 2 was taken in a commercial parking lot on a hill overlooking I-805. The main source of noise at the measurement location was traffic on I-805. The average measured noise level was 80.9 dB(A) L_{eq}.

Measurement 3 was taken adjacent to SR-905/Otay Mesa Road. The speed limit on this portion of Otay Mesa Road is 45 mph. The average measured noise level at approximately 85 feet from the centerline was 77.3 dB(A) L_{eq}.

Measurement 4 was taken adjacent to Airway Road in an industrial portion of the CPU area. Because of the amount of industrial uses, Airway Road experiences high heavy truck volumes. The speed limit on this portion of Airway Road is 40 mph. The average measured noise level at 30 feet from the centerline was 72.6 dB(A) L_{eq}.

Measurement 5 was taken adjacent to Siempre Viva Road. Like Airway Road, Siempre Viva Road experiences high heavy truck volumes. The speed limit on this portion of Siempre Viva Road is 40 mph. The average measured noise level at 60 feet from the centerline was 72.1 dB(A) L_{eq}.

Measurements 6 through 8 were taken on October 18, 2012; at this time, SR-905 had been completed. With the completion of SR-905, Otay Mesa Road carries a lower traffic volume, including less heavy truck traffic than in previous years.

Image source: Copyright 2010 Microsoft, All Rights Reserved (flown May 2010)

M:\JOBS2\3957-1\common_gis\2012\fig5.10-1.mxd 7/22/2013 ccn

0 Feet 2,500

Otay Mesa Community Plan Boundary
Not A Part

Noise Measurement Locations

June 15, 2011
October 18, 2012

FIGURE 5.10-1

Noise Measurement Locations

THIS PAGE IS INTENTIONALLY BLANK.

Measurement 6 was taken adjacent to SR-905/Otay Mesa Road near Innovative Drive. The speed limit on this portion of Otay Mesa Road is 45 mph. The average measured noise level at approximately 93 feet from the centerline was 68.7 dB(A) L_{eq}.

Measurement 7 was taken adjacent to a semi-trailer storage area overlooking SR-125. The main source of noise at the measurement location was traffic on SR-125. The average measured noise level was 61.5 dB(A) L_{eq}.

Measurement 8 was taken on Cactus Road, adjacent to SR-905. The main source of noise at the measurement location was traffic on SR-905. The average measured noise level was 72.0 dB(A) L_{eq}.

Table 5.10-4 presents the results of the noise measurements. Table 5.10-5 summarizes the 15-minute traffic counts.

TABLE 5.10-4
MEASURED NOISE LEVELS

Location	Date	Average Noise Level [dB(A)]	Traffic Noise Sources	Distance From Centerline (feet)	Noise Level at 50 feet from Source [dB(A)]
1	06/15/11	72.3	Ocean View Hills Parkway	40	71.3
2	06/15/11	72.7	I-805	330	80.9
3	06/15/11	77.3	SR-905/Otay Mesa Road	85	79.6
4	06/15/11	74.8	Airway Road	30	72.6
5	06/15/11	72.1	Siempre Viva Road	60	72.9
6	10/18/12	68.7	Otay Mesa Road	93	71.4
7	10/18/12	55.2	SR-125	215	61.5
8	10/18/12	66.0	SR-905	197	72.0

TABLE 5.10-5
15-MINUTE TRAFFIC COUNTS

	Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
1	Ocean View Hills Parkway	134	3	1	0	1
4	Airway Road	49	4	38	2	4
5	Siempre Viva Road	68	5	28	2	6

c. Air Traffic Noise

Brown Field and General Abelardo L. Rodriguez International Airport in Tijuana also generate noise within the CPU area. Figure 5.10-2 shows the existing noise contours associated with operations at these airports (San Diego County Regional Airport Authority 2003, 2010). As shown, the primary source of aircraft noise in the CPU area is

due to operations at Brown Field. Only a small portion of the CPU area is located within the 65-CNEL contour line of the General Abelardo L. Rodriguez International Airport.

d. Other Sources of Noise

Other sources of noise within the CPU area are due to the normal activities associated with a given land use. For example, within residential areas noise sources include dogs, landscaping activities, and parties. Commercial uses include car washes, fast food restaurants, and auto repair facilities. Sources of noise in industrial and manufacturing areas include heavy machinery and truck loading/unloading. Noises from these types of activities would be considered normal environmental noises that would be expected to occur within these types of land uses and are not typically considered significant sources of noise. The City's Municipal Code regulates excessive noises resulting from these types of activities.

5.10.2 Significance Determination Thresholds

Based on the CEQA Significance Thresholds, noise impacts would be significant if the CPU would:

1. Result in the exposure of people to current or future transportation noise levels that would exceed standards established in the Transportation Element of the General Plan and land use compatibility guidelines in the Brown Field Comprehensive Land Use Plan;

2. Result in exposure of future residents to excessive noise levels from airport and aircraft operations;

3. Allow collocation of residential and commercial or industrial uses where exposure of people to noise levels would exceed the City's Noise Abatement and Control Ordinance;

4. Adversely impact sensitive species within the MHPA due to construction noise.

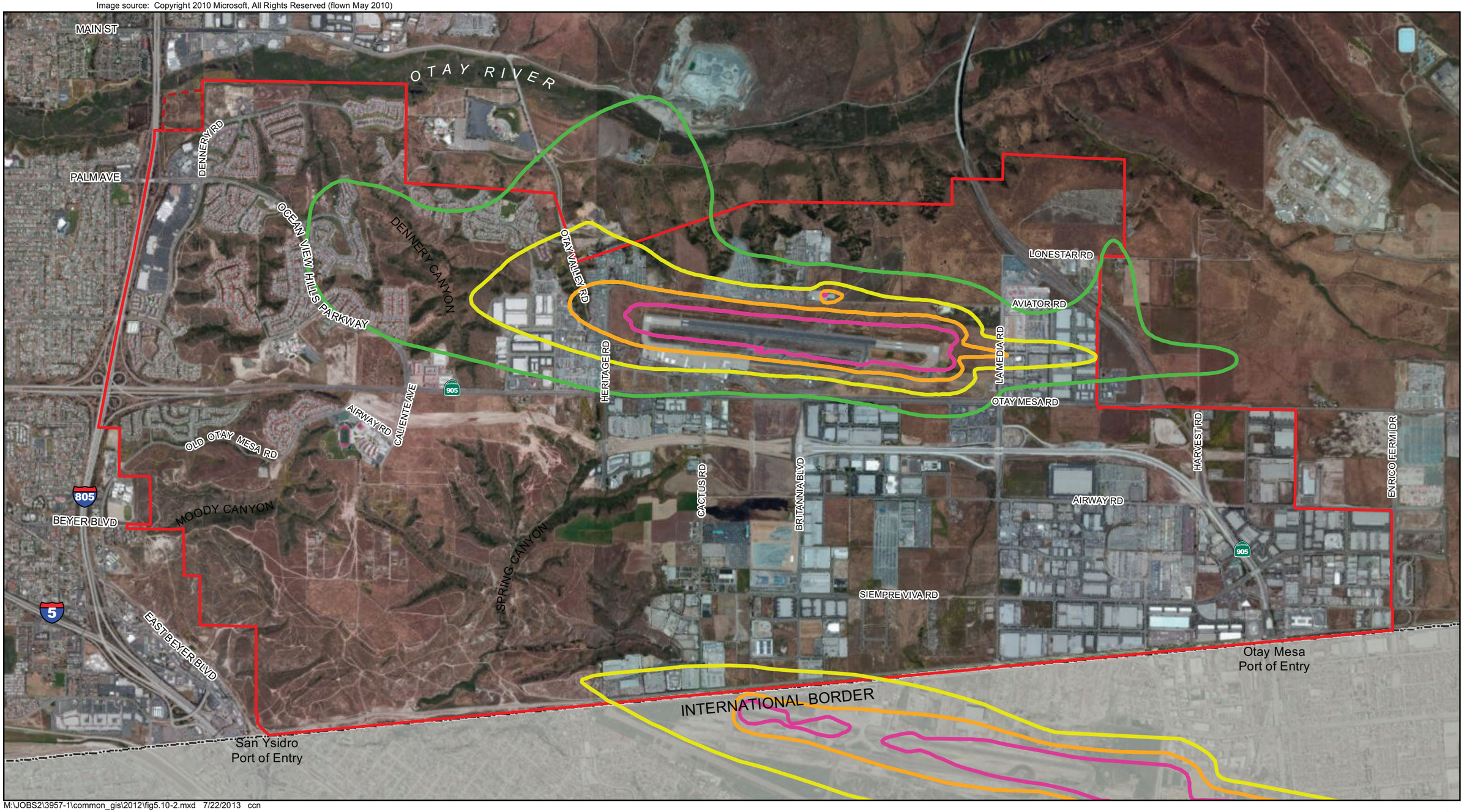
5.10.3 Issue 1: Traffic Generated Noise Impacts

Would the CPU result in a significant increase in the existing ambient noise level?

5.10.3.1 Impacts

Traffic-generated noise impacts for the CPU were estimated based on future traffic volumes for the CPU obtained from the traffic study (see Appendix J), posted speeds, proposed truck routes and estimated vehicle mix on various roads. (See Appendix I for a full description of input into the noise models). Modeling results are based on flat

Image source: Copyright 2010 Microsoft, All Rights Reserved (flown May 2010)



M:\JOBS2\3957-1\common_gis\2012\fig5.10-2.mxd 7/22/2013 ccn

Otay Mesa Community Plan Boundary
Not A Part

Airport Noise Contours
- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL

0 Feet 2,500

FIGURE 5.10-2
Airport Noise Contours and Existing Land Uses

THIS PAGE IS INTENTIONALLY BLANK.

topography with no intervening terrain between noise sensitive land uses and roadways. Because no obstructions were input in the noise model, the predicted noise levels in most instances are higher than would actually occur, since the existing topography and structures would serve to reduce noise impacts. According to the Federal Highways Administration (FHWA), first-row structures provide 3–5 dB(A) reduction from traffic noise, depending on the building-to-gap ratio, with additional rows providing 1.5 dB(A) of additional attenuation for each subsequent row (FHWA 2011). Therefore, the noise levels presented here represent a conservative assessment of noise propagation.

Future noise contours and the CPU land uses are shown in Figure 5.10-3. As previously discussed, buildings, walls, and other barriers would impede the direct line of sight between roadway and receptor and reduce actual noise levels.

As shown in Figure 5.10-3, traffic noise levels associated with the CPU would result in potentially significant impacts as noise sensitive land uses are proposed in areas where exterior noise levels would exceed the noise and land use compatibility standards established in Table N-3 of the General Plan. As shown, traffic noise levels at existing and proposed residential land uses would exceed the City's compatibility thresholds for most residential land uses; however, noise levels would be within the conditionally compatible range for the majority of locations. While the City has a compatibility level of 60 CNEL or less for residential uses, noise levels of 61–65 CNEL are generally considered acceptable for residential uses since interior noise levels can be reduced to 45 CNEL through simple means, such as closing/sealing windows and providing mechanical ventilation which are addressed during building plan check review in accordance with Title 24. Additionally, passive mitigation such as noise walls can usually reduce exterior noise levels to comply with City standards. The majority of proposed residential land uses would be located within this noise compatibility zone.

The greatest concentration of residential uses within the 66–70 CNEL noise level range would be south of Airway Road, and west and east of Caliente Avenue. Noise levels of 66–70 CNEL are more difficult to reduce to compatible levels in single-family structures and these uses are typically precluded from these areas; however, multiple-family residential development would provide the required structural attenuation to reduce noise levels at interior locations in accordance with Title 24 requirements. Additionally, due to the provision of common exterior use areas, multi-family residential would provide greater shielding to these smaller areas, thus providing exterior use areas that comply with City standards. Additionally, the CPU includes specific policies for Otay Mesa as shown in Table 5.10-2 which identifies the requirement for a noise impact analysis, noise compatibility, truck traffic noise reduction methods, design measures to reduce impacts to sensitive receptors and regulatory compliance.

Noise levels of 71–75 CNEL are very difficult to reduce to compatible interior noise levels in most residential structures and noise sensitive land uses are typically precluded from these areas. Additionally, land uses in areas with noise levels this high or greater

would not be capable of providing sufficient shielding for exterior use areas. Existing and proposed residential land uses located southeast of Ocean View Hills Parkway and Del Sol Boulevard, and existing land uses east of I-805, north and south of SR-905, would be exposed to noise levels in excess of 70 CNEL.

Noise levels greater than 75 CNEL are typically limited to industrial uses or retail commercial uses. Based on the presented noise contours, existing residential uses within 1,000 feet of SR-905, and within 1,500 feet of I-805, in the western portion of the CPU area would be located within the 75 CNEL contours for I-805 and SR-905.

As described above, the CPU proposes land uses in areas where exterior noise levels exceed the City's noise and land use compatibility thresholds as defined in the General Plan, Table N-3. For future development of properties located in areas where exterior noise levels exceed 60 CNEL, site-specific noise studies would be required.

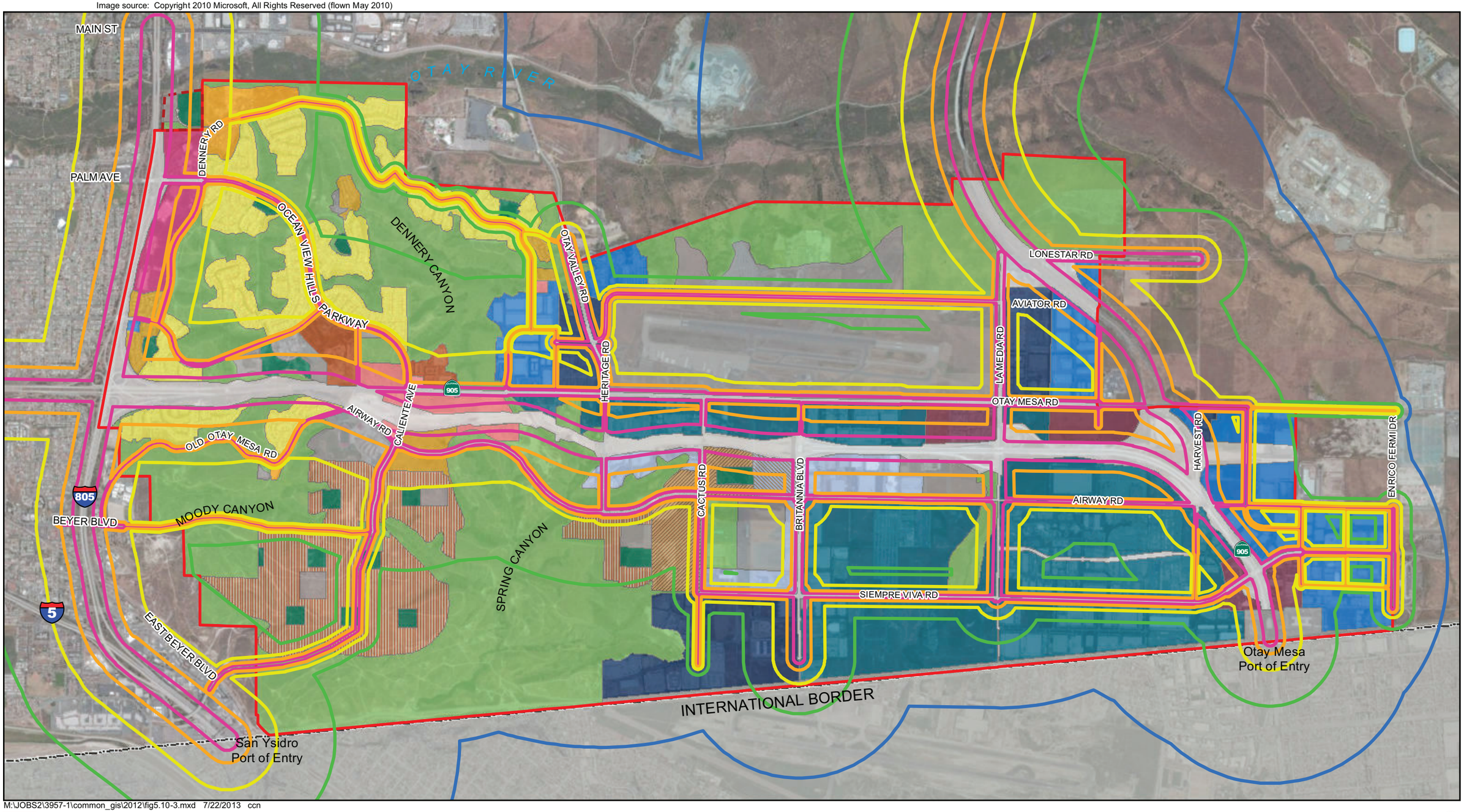
Additionally, project traffic noise effects on existing residences would be potentially significant, particularly in the western portion of the CPU along the I-805 and SR-905, where project traffic noise would exceed the exterior noise level threshold and would potentially result in interior noise levels in existing residences to exceed applicable standards. Many older residences would not be structurally sound enough to achieve current interior noise standards. There is the potential that CPU traffic would generate noise levels that exceed current standards at these existing residences resulting in a potentially significant impact.

5.10.3.2 Significance of Impacts

Based on the noise analysis, exterior and potentially interior traffic noise impacts are anticipated at the majority of locations adjacent to I-805, SR-905, SR-125, Otay Mesa Road, and Airway Road (see Figure 5.10-3). While the regulatory framework would provide for the maximum practical noise abatement that would be implemented at the project-level, because of the variability of noise sources and the proximity to existing and potential noise sources in the CPU area, it cannot be guaranteed that future land uses would not expose existing uses to noise levels in excess of City standards. Therefore, impacts related to traffic noise impacts to new residences would be significant.

There are areas within the CPU area where project traffic noise would potentially cause interior noise levels in existing residences to exceed applicable standards. As these may be older residences, which would not have been constructed to achieve current interior noise standards, there is the potential that project traffic may generate noise levels that exceed current standards at these existing residences. This is a potentially significant impact of the CPU.

Image source: Copyright 2010 Microsoft, All Rights Reserved (flown May 2010)



M:\JOBS2\3957-1\common_gis\2012\fig5.10-3.mxd 7/22/2013 ccn

Otay Mesa Community Plan Boundary
Not A Part

Future Traffic Noise Contours
- 55 CNEL
- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL

Proposed Land Use
- BUSINESS AND INTERNATIONAL TRADE
- BUSINESS PARK
- BUSINESS PARK - RESIDENTIAL
- COMMUNITY COMMERCIAL - NO RESIDENTIAL
- COMMUNITY VILLAGE
- HEAVY COMMERCIAL
- HEAVY INDUSTRIAL
- INSTITUTIONAL
- LIGHT INDUSTRIAL
- LOW
- LOW MEDIUM
- MEDIUM
- MEDIUM HIGH
- NEIGHBORHOOD VILLAGE
- REGIONAL COMMERCIAL - NO RESIDENTIAL
- OPEN SPACE
- PARKS
- RIGHT-OF-WAY

0 Feet 2,500

FIGURE 5.10-3
Future Traffic Noise Contours and Land Uses for the Proposed CPU

THIS PAGE IS INTENTIONALLY BLANK.

5.10.3.3 Mitigation Framework

With implementation of the framework of regulations, standards, and policies, project-level noise protection measures for future discretionary projects' noise impacts would be reduced. However, it is possible that for certain projects, adherence to the regulations would not adequately reduce noise levels, and therefore, these projects would require additional measures to avoid or reduce significant impacts. Mitigation measures NOI-1 and NOI-2 would reduce future project-level impacts. The identified measures shall be updated, expanded and refined when applied to future projects based on project-specific design and changes in existing conditions, and local, state, and federal laws.

NOI-1: Prior to the issuance of building permits, site-specific exterior noise analyses that demonstrate that the project would not place residential receptors in locations where the exterior existing or future noise levels would exceed the noise compatibility standards of the City's General Plan shall be required as part of the review of future residential development proposals. Noise reduction measures, including but not limited to building noise barriers, increased building setbacks, speed reductions on surrounding roadways, alternative pavement surfaces, or other relevant noise attenuation measures, may be used to achieve the noise compatibility standards. Exact noise mitigation measures and their effectiveness shall be determined by the site-specific exterior noise analyses.

NOI-2: When building plans are available and prior to the issuance of building permits, site specific interior noise analyses demonstrating compliance with the interior noise compatibility standards of the City's General Plan and other applicable regulations shall be prepared for noise sensitive land uses located in areas where the exterior noise levels exceed the noise compatibility standards of the City's General Plan. Noise control measures, including but not limited to increasing roof, wall, window, and door sound attenuation ratings, placing HVAC in noise reducing enclosures, or designing buildings so that no windows face freeways or major roadways may be used to achieve the noise compatibility standards. Exact noise mitigation measures and their effectiveness shall be determined by the site specific exterior noise analyses.

5.10.3.4 Significance after Mitigation

Exterior and potentially interior traffic noise impacts are anticipated at the majority of locations adjacent to I-805, SR-905, SR-125, Otay Mesa Road, and Airway Road (see Figure 5.10-3).

Future development implemented in accordance with the CPU would be required to comply with the recommendations included in an acoustical report prepared in accordance with City Acoustical Report Guidelines, the GP and CPU policies. Strict

adherence to the Mitigation Framework detailed in NOI-1 and NOI-2 which requires regulatory compliance as noted above would ensure that impacts related to exterior and interior noise are reduced; however, even with strict adherence to the Mitigation Framework, these impacts cannot be reduced to below a level of significance and therefore, the impacts remain significant and unavoidable.

Additionally, project traffic noise effects on existing residences would be significant. There are areas within the CPU area where project traffic noise would potentially cause interior noise levels in existing residences to exceed applicable standards. Due to the fact that these would be older homes which would not have been constructed to achieve current interior noise standards, there is the potential that project traffic would generate noise levels that exceed current standards at these existing residences. No mitigation is available for traffic noise impacts to existing residences. Impacts would remain significant and unavoidable.

5.10.4 Issue 2: Stationary Source Noise (Collocation)

Could the proposed collocation of residential and commercial or industrial land uses result in the exposure of people to noise levels which exceed the City's Noise Abatement and Control Ordinance?

5.10.4.1 Impacts

The CPU strives to integrate land uses in accordance with the City of Villages concept. As such, noise sensitive land uses, such as residential, would be located in proximity to noise generating land uses, such as commercial and industrial land uses.

Stationary sources of noise include activities associated with a given land use. For example, noise sources in commercial uses would include car washes, fast food restaurants, auto repair facilities, parking lots, and a variety of other uses; sources of noise in industrial and manufacturing areas would include heavy machinery, truck loading/unloading, and other industrial activities. Figure 5.10-3 shows the areas of residential – industrial land uses. Mixed-use areas would also contain residential and commercial interfaces. As shown, there are areas where noise sensitive residential uses would be located adjacent to noise generating uses. These include the mixed-use villages where there is a residential–commercial interface and residential areas adjacent to commercial and industrial land uses.

To reduce the typical average commercial and industrial noise levels, which range from 60 to 80 dB(A) L_{eq} at 50 feet, to the daytime single-family residential noise level limit of 50 dB(A) L_{eq}, a buffer distance ranging from 50 to 500 feet would be required. Site-specific noise reduction measures such as noise barriers would allow for reduced buffer distances. However, without project-specific details, noise levels generated by these

activities associated with future development under the CPU cannot be anticipated at the program-level.

Although noise-sensitive residential land uses would be exposed to noise associated with the operation of these commercial and industrial uses, City policies in place are intended to control noise and reduce noise impacts between various land uses. The City's noise policies, as contained in the General Plan and Noise Abatement and Control Ordinance, include policies and regulations that require noise studies for land uses proposed for potentially incompatible locations, limits on hours of operation for various noise generating activities, and standards for the compatibility of various land uses with the existing and future noise environment. In addition, the previously described federal, state, and local noise regulations preclude or reduce significant impacts. Moreover, the CPU includes policies to reduce noise impacts. Such policies include requiring site design considerations and other measures to reduce noise levels from these noise generating uses where an interface with noise sensitive land uses occurs. The CPU also defines acceptable methods for separating sensitive receptors within the CPU area, in the form of roads and parking to reduce noise levels to sensitive receptors. These criteria would be applied as future development is proposed to implement the CPU.

5.10.4.2 Significance of Impacts

As discussed above, the CPU has the potential to site noise-sensitive uses (i.e., residential) adjacent to noise-generating commercial and industrial uses. The juxtaposition of these land uses would result in potentially significant noise impacts. While the framework of federal, state, and local regulations and policies would reduce direct and indirect impacts associated with the generation of noise levels in excess of standards established in the General Plan or Noise Abatement and Control Ordinance, no project-level site plans or implementation programs have been considered as part of this PEIR. Without detailed operational data it cannot be verified that compliance with existing regulations would reduce all impacts to below a level of significance. As the degree of success of regulations cannot be adequately known for each project at this program-level of analysis, the program-level impact related to noise from stationary sources would be significant.

5.10.4.3 Mitigation Framework

The framework of regulations, standards, and policies by the City combined with the federal state and local regulations described above provide a framework for developing project-level noise protection measures for future discretionary projects. The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA as well as an analysis of those projects for consistency with the goals, policies and recommendations of the General Plan and the CPU.

Operational noise from various land uses could adversely impact adjacent properties, either individually or cumulatively. In general, implementation of the policies included in the CPU and General Plan shall preclude or reduce noise impacts relative to construction noise and collocation issues. Compliance with the standards is required of all projects and is not considered to be mitigation. However, it is possible that for certain projects, adherence to the regulations would not adequately reduce noise levels, and, as such, would require additional measures to avoid or reduce significant impacts.

For each future project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures shall be identified that reduce significant project-level impacts to below a level of significance or the project-level impact shall remain significant and unavoidable where no feasible mitigation exists. Where mitigation is determined to be necessary and feasible, these measures shall be included in a future MMRP for the project. Where mitigation is determined to be infeasible, a project shall not be approved unless all feasible measures have been incorporated into the project design.

The following mitigation measure shall be implemented to preclude project-level impacts and ensure that on-site generated noise does not exceed the limits of Section 59.5.0101 et seq. of the City's Municipal Code, the Noise Abatement and Control Ordinance. This measure shall be updated, expanded and refined when applied to specific future projects based on project-specific design and changes in existing conditions, and local, state and federal laws.

NOI-3: Prior to the issuance of a building permit, a site-specific acoustical/noise analysis of any on-site generated noise sources, including generators, mechanical equipment, and trucks, shall be prepared which identifies all noise-generating equipment, predicts noise levels at property lines from all identified equipment, and recommends mitigation to be implemented (e.g., enclosures, barriers, site orientation), to ensure compliance with the City's Noise Abatement and Control Ordinance. Noise reduction measures shall include building noise-attenuating walls, reducing noise at the source by requiring quieter machinery or limiting the hours of operation, or other attenuation measures. Additionally, future projects shall be required to buffer sensitive receptors from noise sources through the use of open space and other separation techniques as recommended after thorough analysis by a qualified acoustical engineer. Exact noise mitigation measures and their effectiveness shall be determined by the site specific noise analyses.

5.10.4.4 Significance after Mitigation

Future development implemented in accordance with the CPU would be required to comply with the recommendations included in an acoustical report prepared in

accordance with City Acoustical Report Guidelines, the GP and CPU policies. Strict adherence to the Mitigation Framework detailed in NOI-3 which requires preparation and submittal of a site-specific acoustical/noise analysis, along with regulatory compliance as noted above would ensure that impacts related to the generation of noise levels in excess of standards established in the City's Municipal Code are reduced; however, even with strict adherence to the Mitigation Framework, these impacts cannot be reduced to below a level of significance and therefore, the remain significant and unavoidable.

4.10.5 Issue 3: Airport Noise

Would the CPU result in the exposure of people to current or future noise levels which exceed standards established in the land use compatibility guidelines in the Brown Field Municipal Airport Land Use Plan Compatibility Plan?

5.10.5.1 Impacts

The primary sources of aircraft noise in the vicinity of the CPU area are operations associated with Brown Field, located within the CPU area, and General Abelardo L. Rodriquez International Airport in Tijuana, just south of the U.S.-Mexico Border. Figure 5.10-2 shows the existing airport noise contours in the CPU area. As shown, existing residential uses located east of Ocean View Hills Parkway are located within the 60 CNEL contour line for Brown Field and two existing residential areas are located within the 65 CNEL contour. No residential currently exists within the 70 CNEL or greater contours, and none is proposed under the CPU. No new residential development is proposed within the Brown Field 60 or 65 CNEL contours. As shown in Table 5.10-2, these residential areas are conditionally compatible within 60 to 65 CNEL. Noise levels are acceptable between 60 and 65 CNEL, provided that interior noise levels for residential uses do not exceed 45 CNEL.

Several commercial and industrial uses are also located within the Brown Field AIA. These uses are compatible with noise levels up to 75 CNEL (see Table 5.10-2). However, noise levels at these areas do not exceed 70 CNEL due to operations at Brown Field.

As shown in Figure 5.10-2, the 65 CNEL contour line for General Abelardo L. Rodriguez International Airport crosses the southernmost boundary of the CPU area. Existing and proposed industrial uses are located within this 65 CNEL contour line. Typical commercial and industrial uses are conditionally compatible within 70 to 75 CNEL with an interior noise level of 50 CNEL for associated offices. However, public works yards, outdoor storage, extractive industry, and solid waste facilities are compatible up to 75 dB (A). Typical commercial and industrial construction provides 25–30 dB(A) attenuation from exterior noise sources. Therefore, noise levels of 70 CNEL would be reduced to

40–45 CNEL within structures located within this zone. Therefore, interior noise levels would comply with the applicable standards.

5.10.5.2 Significance of Impacts

Existing residential uses would be located within the 60 and 65 CNEL contours for Brown Field. Existing and future Industrial uses would be located within the General Abelardo L. Rodriguez International Airport 70 CNEL contour. These uses would be considered conditionally compatible with these noise levels as long as the uses meet the interior noise level standards. Although these are existing uses, the structural attenuation of these structures cannot be adequately determined at this program-level analysis, therefore, potentially significant impacts would result at these residences. No new residential land uses are proposed within the Brown Field contours, thus no new impact on future residential uses are anticipated. Additionally, noise levels would not exceed 70 CNEL at any nearby industrial uses. Based on the standard attenuation associated with commercial and industrial, exterior noise levels of 70 CNEL would be reduced to 40-45 CNEL within structures located within this zone. Therefore, impacts to future land uses would be less than significant.

5.10.5.3 Mitigation Framework

Existing land uses are currently exposed to conditionally acceptable noise levels from operations at Brown Field and the General Abelardo L. Rodriguez International Airport. These noise levels exceed the thresholds, however, the CPU would not alter operations at either airport; this is not considered a project impact. No airport noise impacts are anticipated for proposed uses from either airport and no mitigation measures are required.

5.10.5.4 Significance After Mitigation

Impacts would be less than significant.

5.10.6 Issue 4: Construction Noise

Would temporary construction noise from the proposed neighborhood developments or permanent noise generators (including roads) adversely impact sensitive receptors or sensitive bird species (e.g., coastal California gnatcatcher) within the MHPA?

5.10.6.1 Impacts

Construction Noise Impacts

Construction activities related to implementation of the CPU would potentially generate short-term noise impacts to noise-sensitive land uses located adjacent to construction sites. Some construction activities have the potential to produce noise in excess of 75 dB(A) L_{eq}, and could therefore be potentially significant if their activity is heard by sensitive receptors. The City regulates noise associated with construction equipment and activities through enforcement of Noise Abatement and Control Ordinance standards (e.g., days of the week and hours of operation) and imposition of conditions of approval for building or grading permits. Because the degree of success of these regulations and conditions cannot be adequately known for each project at this program-level of analysis, the program-level impact related to construction noise would be potentially significant.

Noise associated with the earthwork, construction, and surface preparation for future development within the CPU area would result in short-term, temporary noise impacts that could result in potentially significant impacts to coastal California gnatcatchers within the MHPA, as described in Sections 5.1 and 5.4.

A variety of noise-generating equipment would likely be used during construction of future development (i.e., scrapers, dump trucks, backhoes, front-end loaders, jackhammers, along with others). This equipment can individually generate noise levels that range between 77 and 91 dB(A) at 50 feet from the source. Construction-generated noise above 60 CNEL would result in significant impacts during the breeding and nesting period of March 1 to August 15 if coastal California gnatcatchers are breeding or nesting in adjacent MHPA lands. Potentially significant impacts to coastal California gnatcatchers (e.g., disruption of nesting activities) are discussed in more detail in the Sections 5.1 and 5.4 of this PEIR.

5.10.6.2 Significance of Impacts

As discussed above, the CPU has the potential to exceed applicable construction thresholds at residential properties adjacent to construction sites.

Additionally, there is the potential for construction noise to impact least Bell's vireo, coastal California gnatcatcher, raptors, and other sensitive species if they are breeding or nesting in adjacent MHPA lands. These impacts are significant at the program-level.

5.10.6.3 Mitigation Framework

The following mitigation measure shall be implemented to preclude project-level impacts. This measure shall be updated, expanded, and refined when applied to specific future

projects based on project-specific design and changes in existing conditions, and local, state, and federal laws.

NOI-4: For projects that exceed daily construction noise thresholds established by the City of San Diego, best construction management practices shall be used to reduce construction noise levels to comply with standards established by the Municipal Code in Chapter 5, Article 9.5, Noise Abatement and Control. Project applicant shall prepare and implement a Construction Noise Management Plan. Appropriate management practices shall be determined on a project-by-project basis, and are specific to the location. Control measures shall include:

a. Minimizing simultaneous operation of multiple construction equipment units;

b. Locating stationary equipment as far as reasonable from sensitive receptors;

c. Requiring all internal combustion-engine-driven equipment to be equipped with mufflers that are in good operating condition and appropriate for the equipment; and

d. Construction of temporary noise barriers around construction sites that block the line-of-sight to surrounding receptors.

The MHPA Land Use Adjacency Guidelines in the MSCP Subarea Plan address noise impacts associated with industrial, commercial, mixed-use, or recreation uses that generate stationary noise adjacent to MHPA areas and are specifically detailed in Mitigation Framework LU-2 in Section 5.1. Additional construction-related noise measures are identified in Section 5.4, Biological Resources.

5.10.6.4 Significance After Mitigation

Future development implemented in accordance with the CPU would be required to comply with the recommendations included in an acoustical report prepared in accordance with City Acoustical Report Guidelines, the GP and CPU policies and other regulatory or guidance documents. Strict adherence to the Mitigation Framework detailed in NOI-4, which requires compliance with the City's Noise Abatement and Control Ordinance as noted above would reduce construction-related noise impacts, but not to below a level of significance. Even with strict adherence to the Mitigation Framework, these impacts cannot be reduced to below a level of significance and therefore, the impact remains significant and unavoidable.

5.11 Paleontological Resources

5.11.1 Existing Conditions

Paleontological resources (fossils) are the remains and/or traces of prehistoric animal and plant life exclusive of human remains or artifacts. Fossil remains such as bones, teeth, shells, leaves, and other fossils are found in the geologic deposits (rock formations) within which they were originally buried. Fossil remains are important as they provide indicators of the earth's chronology and history. They represent a limited, nonrenewable, and sensitive scientific and educational resource.

The following analysis is based on a review of available literature including the Geotechnical Report for the CPU (Geocon 2012), the City of San Diego Paleontological Guidelines (2002), and the County of San Diego Paleontological Resources by Walsh and Deméré (1994).

5.11.1.1 Paleontological Resource Potential

The potential for fossil remains at a given location can be predicted through previous correlations that have been established between the fossil occurrence and the geologic formations within which they are entombed. Geologic formations possess a specific paleontological resource potential wherever the formation occurs based on discoveries made elsewhere in that particular formation. To evaluate paleontological resources in the CPU area, the presence and distribution of geologic formations and the respective potential for paleontological resources were reviewed.

Geologic formations are rated for paleontological resource potential according to the following scale (Deméré and Walsh 1994).

- High Sensitivity - These formations contain a large number of known fossil localities. Generally, highly sensitive formations produce vertebrate fossil remains or are considered to have the potential to produce such remains.

- Moderate Sensitivity - These formations have a moderate number of known fossil localities. Generally, moderately sensitive formations produce invertebrate fossil remains in high abundance or vertebrate fossil remains in low abundance.

- Low and/or Unknown Sensitivity - These formations contain only a small number of known fossil localities and typically produce invertebrate fossil remains in low abundance. Unknown sensitivity is assigned to formations from which there are presently no known paleontological resources but which have the potential for producing such remains based on their sedimentary origin.

- Very Low Sensitivity - Very low sensitivity is assigned to geologic formations that, based on their relative youthful age and/or high-energy depositional history, are judged to be unlikely to produce any fossil remains.

According to the geotechnical evaluation prepared for the CPU (Geocon, Inc. 2012), geologic formations occurring in the CPU area include Very Old Paralic Deposits (Qvop) (formerly the Lindavista Formation), San Diego and Otay Formations, as well as undocumented fill, topsoil and slopewash, and alluvium.

The paleontological resource potential for each of these formations (Deméré and Walsh 1994) is shown on Figure 5.11-1 and discussed below. Other soils found in the CPU area (undocumented fills, topsoil, slopewash, and alluvium) are considered to have a low potential for paleontological resources.

a. Very Old Paralic Deposits (Qvop) (formerly the Lindavista Formation [Qln]) – Moderate Sensitivity

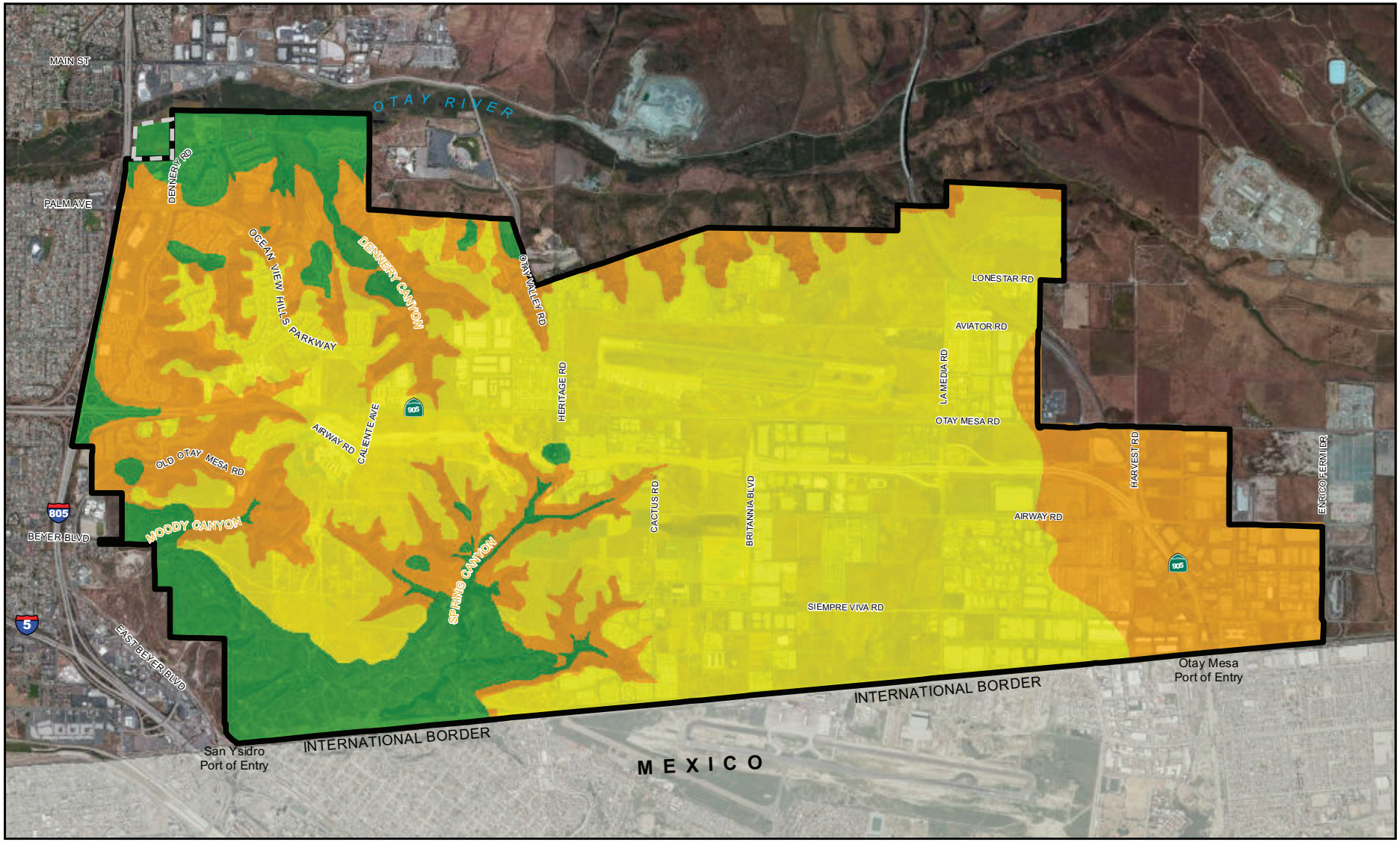
The Very Old Paralic Deposits (approximately one million years old) occur on areas of higher elevation (mesas, ridgelines) within the CPU area. Fossil localities are rare in this formation and have only been collected from a few areas. Fossils collected from these sites consist of remains of nearshore marine invertebrates including clams, scallops, snails, barnacles, and sand dollars. Based on the scarcity of fossils in the Very Old Paralic Deposits, this formation is assigned a “moderate” resource sensitivity.

b. San Diego Formation (Tsd) – High Sensitivity

The late Pliocene age (approximately 2.3 to 4 million years old) San Diego formation is exposed on the slopes of drainages, primarily in the western portion of the CPU area. The San Diego formation has rich fossil beds that have produced diverse assemblages of marine invertebrate and vertebrate fossils such as clams, scallops, snails, crabs, barnacles, sharks, rays, bony fishes, sea birds, dolphins, walrus, fur seal, and baleen whales. Rare remains of terrestrial mammals including cat, wolf, skunk, camel, antelope, deer, and horse have also been recovered from this formation. Also occurring in this formation is fossil wood and leaves including remains of pine, oak, laurel, cottonwood, and avocado.

Because of the extremely important remains of fossil marine mammals, sea birds, and mollusks recovered from the San Diego Formation, which are an important source of information on Pliocene marine organisms and environments, it is assigned “high” resource sensitivity.

Image source: Copyright 2010 Microsoft, All Rights Reserved (flown May 2010).



M:\JOBS2\3957-1\common_gis\2012\fig5.11-1.mxd 7/22/2013

Otay Mesa Community Plan Boundary

Not A Part

Paleontological Sensitivity

- High (Tsd, To)
- Mod (Qvop)
- Low or Null (Qal, Qls, Qls?, Qt, Qya, Tmv, Qpf,)

0 Feet 4,000

FIGURE 5.11-1

Paleontological Resource Sensitivity

c. Otay Formation (To) – High Sensitivity

The Pliocene-age Otay Formation underlies the San Diego Formation in the CPU area. Numerous fossil localities have been discovered in the upper sandstone-mudstone unit and the middle grit stone unit, while no fossils have been recorded from the lower unit. Fossils from this formation include well-preserved remains of a diverse assemblage of terrestrial vertebrates such as tortoise, lizards, rabbit, dog, and fox. The upper sandstone portion of the Otay Formation has produced important vertebrate fossil remains and is assigned a "high" resource sensitivity. It is considered the richest source of late Oligocene terrestrial vertebrates in California. The lower portion of the Otay formation has produced vertebrate fossils from only a few localities; however, it is still assigned a "high" resource sensitivity in accordance with the City's Significance Determination Thresholds (City of San Diego 2011d).

5.11.1.2 Regulatory Framework

Pursuant to Section 15065 of the State CEQA Guidelines (California Code of Regulations Sections 15000–15387), a lead agency must find that a project would have a significant effect on the environment where the project has the potential to eliminate important examples of the major periods of California prehistory, which includes the destruction of significant paleontological resources.

According to City of San Diego Significance Determination Thresholds (2011), impacts to paleontological resources are considered potentially significant for areas with a high sensitivity if grading would exceed 1,000 cubic yards and extend over a depth of 10 feet, and for areas with moderate sensitivity if grading would exceed 2,000 cubic yards and extend over a depth of 10 feet. Additionally, impacts would be considered significant in areas of shallow grading where formational soils are exposed at the surface (i.e., as a result of previous grading) and where fossil localities have already been identified.

5.11.2 Significance Determination Thresholds

Based on the City's Significance Determination Thresholds, impacts related to paleontological resources would be significant if the CPU would:

1. Allow development to occur that could significantly impact a unique paleontological resource or a geologic formation possessing a moderate to high fossil bearing potential.

5.11.3 Issue 1: Paleontological Resources

Would the CPU allow development to occur that could significantly impact a unique paleontological resource or a geologic formation possessing a moderate to high fossil bearing potential?

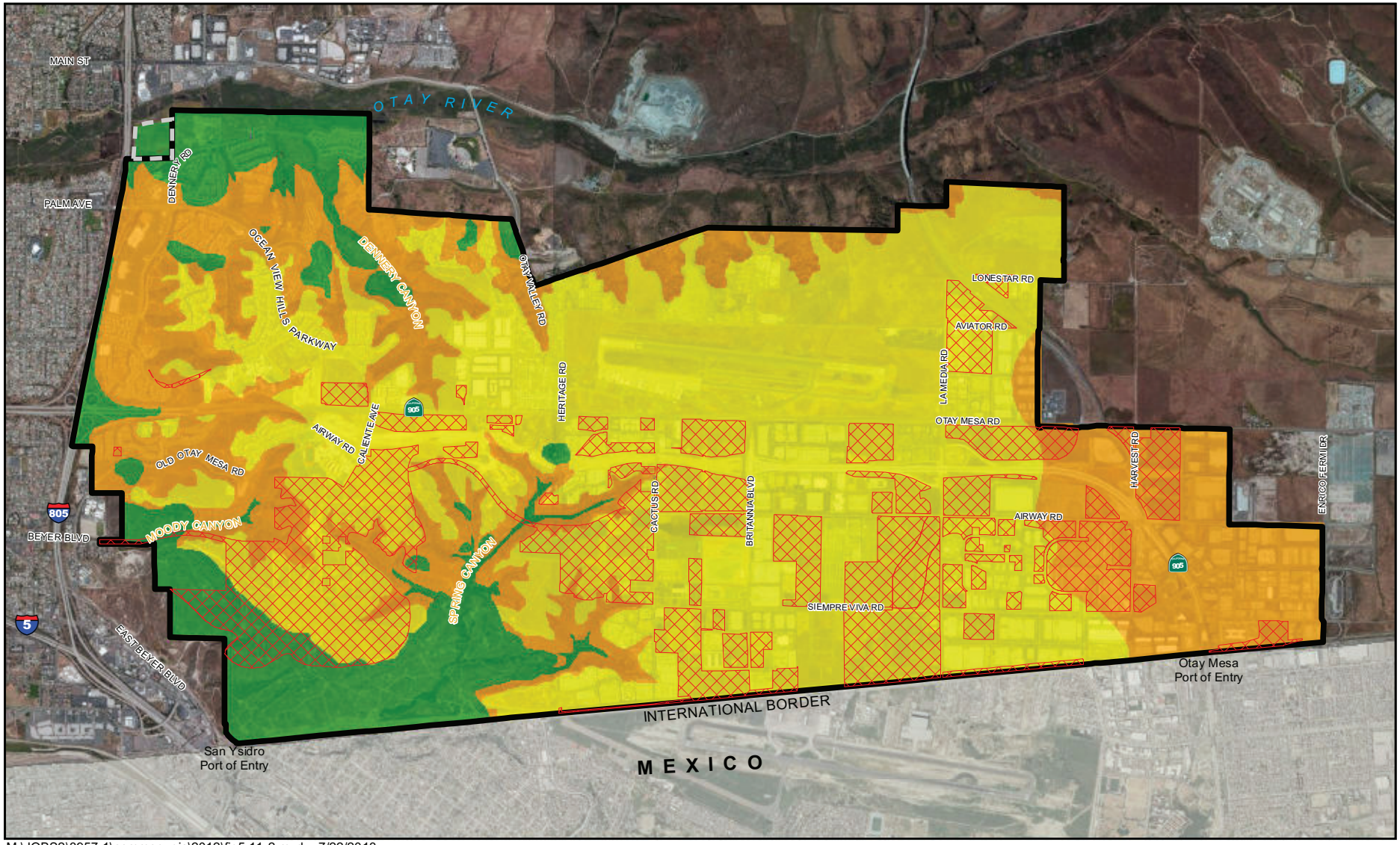
5.11.3.1 Impacts

Because human understanding of history is obtained, in part, through the discovery and analysis of paleontological resources, the excavation or grading of geologic formations, which could contain fossil remains, would result in a potentially significant impact. The CPU area contains geologic formations considered to be of high (San Diego Formation, Otay Formation) and moderate (Very Old Paralic Deposits) sensitivity for fossils.

Although grading information for future development within the CPU area cannot be determined at this time, a "worst case" scenario can be approximated. The "worst case" condition includes permanent disturbance (development and/or grading) of the entire CPU area with the exception of CPU open space preserve acreage. As shown in Figure 5.11-2, approximately 352 acres designated as high paleontological sensitivity, approximately 1,505 acres designated as moderate sensitivity, and less than 1 acre designated as low sensitivity would potentially be impacted by buildout of the CPU. Grading would exceed the depth and volume indicated in Table 5.11-1. As such, CPU implementation would result in grading that would impact fossil resources relevant to understanding earth's history, if the fossils are not recovered and salvaged.

Future development in areas designated for commercial and industrial uses on properties that have not been previously graded, or have been graded but have not otherwise developed, would be subject to review in accordance with the supplemental regulations for CPIOZ Type A (ministerial). This includes a requirement for submittal of a Paleontological Letter prepared by a qualified paleontologist in accordance with the City's Paleontological Guidelines that identifies the geologic formation information regarding fossil resource sensitivity and a determination that there are no paleontological resources present on the project site. Development proposals that do not comply with the CPIOZ Type A supplemental regulations would be subject to discretionary review in accordance with CPIOZ Type B. Both processes are further described in Section 3.0, Project Description.

Image source: Copyright 2010 Microsoft, All Rights Reserved (flown May 2010).



M:\JOBS2\3957-1\common_gis\2012\fig5.11-2.mxd 7/22/2013

Otay Mesa Community Plan Boundary

Not A Part

Proposed CPU Impacts

Paleontological Sensitivity

High (Tsd, To)

Mod (Qvop)

Low or Null (Qal, Qls, Qls?, Qt, Qya, Tmv, Qpf,)

0 Feet 4,000

FIGURE 5.11-2

Paleontological Resource Impact Areas

5.11.3.2 Significance of Impacts

Implementation of the CPU has the potential to result in significant impacts to paleontological resources. Specifically, future projects implemented in accordance with the CPU that would involve substantial grading within the San Diego and Otay formations and Very Old Paralic Deposits that would result in the loss of significant fossil remains. It should be noted however, that for future projects that are consistent with the OMCP, base zone regulations and the supplemental regulations for CPIOZ Type A and can demonstrate that no paleontological fossil resources are present; the project can be processed ministerially and would not be subject to further environmental review under CEQA.

TABLE 5.11-1
PALEONTOLOGICAL SIGNIFICANCE THRESHOLDS

Sensitivity Rating	Excavation Volume and Depth Thresholds
High	>1,000 cubic yards and >10 feet deep
Moderate	>2,000 cubic yards and >10 feet deep
Low-Zero	Mitigation not required

5.11.3.3 Mitigation Framework

For future development project types that are consistent with the OMCP, base zone regulations and the supplemental regulations for CPIOZ Type A and can demonstrate that no paleontological fossil resources are present on the project site; the project can be processed ministerially and would not be subject to further environmental review under CEQA. Development proposals that do not comply with the CPIOZ Type A supplemental regulations shall be subject to discretionary review in accordance with CPIOZ Type B and the Mitigation Framework for Paleontological Resources further detailed below.

PALEO-1: Prior to the approval of development projects implemented in accordance with the CPU, the City shall determine, based on review of the project application submitted under CPIOZ TYPE B and recommendations of a project-level analysis of potential impacts on paleontological resources completed in accordance with the steps presented below. Future projects shall be sited and designed to minimize impacts on paleontological resources in accordance with the City's Paleontological Resources Guidelines and CEQA Significance Thresholds. Monitoring for paleontological resources required during construction activities shall be implemented at the project-level and shall provide mitigation for the loss of important fossil remains with future discretionary projects that are subject to environmental review.

I. Prior to Project Approval

A. The environmental analyst shall complete a project-level analysis of potential impacts on paleontological resources. The analysis shall include a review of the applicable USGS Quad maps to identify the underlying geologic formations, and shall determine if construction of a project would:

- Require over 1,000 cubic yards of excavation and/or a 10-foot, or greater, depth in a high resource potential geologic deposit/formation/rock unit.

- Require over 2,000 cubic yards of excavation and/or a 10-foot, or greater, depth in a moderate resource potential geologic deposit/formation/rock unit.

- Require construction within a known fossil location or fossil recovery site. Resource potential within a formation is based on the Paleontological Monitoring Determination Matrix.

B. If construction of a project would occur within a formation with a moderate to high resource potential, monitoring during construction would be required.

- Monitoring is always required when grading on a fossil recovery site or a known fossil location.

- Monitoring may also be needed at shallower depths if fossil resources are present or likely to be present after review of source materials or consultation with an expert in fossil resources (e.g., the San Diego Natural History Museum).

- Monitoring may be required for shallow grading (<10 feet) when a site has previously been graded and/or unweathered geologic deposits/formations/rock units are present at the surface.

- Monitoring is not required when grading documented artificial fill. When it has been determined that a future project has the potential to impact a geologic formation with a high or moderate fossil sensitivity rating a Paleontological MMRP shall be implemented during construction grading activities.

5.11.3.4 Significance after Mitigation

Future development implemented in accordance with the CPU and the supplemental development regulations for CPIOZ Type A (ministerial) would not be required to incorporate the Mitigation Framework measures and alternatives adopted in conjunction with the certification of this PEIR. However, for future development subject to review under CPIOZ Type B (discretionary), implementation of the Mitigation Framework measures adopted in conjunction with the certification of this PEIR would be required. Therefore, the program-level impact related to paleontological resources would be reduced to below a level of significance.

THIS PAGE IS INTENTIONALLY BLANK.

5.12 Transportation/Circulation

This section analyzes the potential transportation-related impacts associated with the adoption of the CPU. The study area boundaries for the purposes of the traffic analysis include the CPU area and extend to those areas outside the CPU area to roads that are common to other communities in the City of San Diego and other jurisdictions such as the City of Chula Vista and the County of San Diego. The analysis in this section is based on the Traffic Impact Analysis (TIA) prepared by Urban Systems Associates (USA), Inc. (June 14, 2012), which is contained in Appendix J.

5.12.1 Existing Conditions

The following section outlines traffic conditions and regulatory framework of the existing street network, including roadway segments, key intersections, freeway segments, mass transit routes, bikeways, and pedestrian facilities within the study area.

5.12.1.1 Regulatory Framework

Traffic conditions and transportation planning in San Diego County are guided by state, regional, and local agencies and their policies. Caltrans is responsible for enhancement and maintenance of state highways and interstate freeways. Any changes to state facilities or construction within state right-of-way require an encroachment permit from Caltrans. Regional transportation planning efforts are guided by the travel forecasting models run by SANDAG. Locally, each incorporated city, including the City of San Diego, along with the County of San Diego, has developed specific goals and policies for traffic conditions and roadways within their jurisdiction. Each agency is responsible for the implementation of its goals and policies.

a. City of San Diego General Plan

The Mobility Element of the City of San Diego General Plan defines the policies regarding traffic flow and transportation facility design. The purpose of the Mobility Element is "to improve mobility through development of a balanced, multi-modal transportation network." The main goals of the Mobility Element pertain to walkable communities, transit first, street and freeway system, intelligent transportation systems, (ITS), Transportation Demand Management (TDM), bicycling, parking management, airports, passenger rail, goods movement/freight, and regional transportation coordination and financing.

b. Otay Mesa Community Plan Transportation Element

The purpose of the adopted Otay Mesa Community Plan Transportation Element is to establish goals and policies to guide future street network and design, street classification, LOS, transit facilities and service, pedestrian and bicycle

accommodations, and facility improvements needed to support future travel needs within the Community Plan area. This element would be replaced by the proposed Mobility Element of the CPU if adopted.

c. Regional Transportation Plan

SANDAG's 2050 RTP, adopted in October 2011, is the long-range mobility plan for the region. It includes short-term and long-term strategies for the development of an integrated multi-modal transportation system, and is required in order to be eligible for state and federal funding. The RTP identifies and prioritizes projects, and calls out funding sources for their implementation. The 2050 RTP is developed around five primary components: a Sustainable Communities Strategy, Social Equity and Environmental Justice, Systems Development, Systems Management, and Demand Management. It addresses improvements to transit, rail, roadways, goods movement, bicycling, and walking, as well as other topics. The RTP Sustainable Communities Strategy (SCS), consistent with Senate Bill 375, shows how integrated land use, housing, and transportation planning can lead to lower greenhouse gas emissions from autos and light trucks. The RTP is intended to support a regional smart growth plan. This vision reflects a transportation system that supports a robust economy and a healthy and safe environment with climate change protection while providing a higher quality of life for San Diego County residents. This includes better activity centers with homes and jobs enabling more people to use transit and walk and bike; efficiently transporting goods; and providing effective transportation options for all people. It should be noted that the PEIR prepared for the RTP and SCS is the subject of ongoing litigation (as of printing of this PEIR).

d. Bicycle Master Plan

The City's Bicycle Master Plan (City of San Diego 2002) seeks to foster a bicycle-friendly environment to serve commuter and recreational riders. The plan is currently undergoing an update and identifies policies, routes, programs, and facility priorities to increase bicycle transportation, safety, access, and quality of life. Similar to improved pedestrian environments and routes, improved bicycle routes can increase ridership, which provides community and regional benefits (reduced traffic congestion, energy consumption, vehicle emissions, etc.). The development, maintenance, and support of a bicycle network addressed in the Bicycle Master Plan were considered in the Mobility Element of the General Plan (City of San Diego 2008).

e. Level of Service Criteria

The Level of Service (LOS) criteria used in this analysis is based on the City of San Diego Traffic Impact Study Manual (1998). LOS provides a quantitative measure of certain traffic criteria (speed, travel time, comfort, etc.) that represent a transportation facility quality of service from a traveler's perspective. A vehicle level of service

definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort, convenience, and safety. LOS A represents the best operating conditions from a driver's perspective (primarily free-flow operation), while LOS F represents the worst case where traffic flow is at extremely low speed. Per the City criteria, intersections and roadway segments operating at a LOS D or better are considered acceptable under both direct and cumulative conditions. LOS criteria for roadway segments, intersection, and freeways are discussed below.

Roadway Segments

The roadway level of service standards and thresholds that the City of San Diego uses provide the basis for analyzing arterial roadway segment performance. The analysis of roadway segment level of service is based on the functional classification of the roadway, the maximum desirable capacity, roadway geometrics, and existing or forecasted average daily traffic (ADT) volumes. The actual capacity of roadway facilities can vary due to a number of actual characteristics including, but not limited to, pavement width, frequency of cross streets and driveways, intersection signal timing, geometry, and on-street parking. The actual functional capacity is typically based on the ability of arterial intersections to accommodate peak hour volumes. LOS D is considered acceptable for roadway segments.

Intersections

Intersection analysis, per the Highway Capacity Manual (HCM; Transportation Research Board 2010), varies for signalized intersections and unsignalized intersections. The intersection analysis considers lane width, on-street parking, conflicting pedestrian flow, traffic composition (i.e., percent of trucks) and shared lane movements (e.g., through and right-turn movements from the same lane). LOS for signalized intersections is based on the average control delay per vehicle for the peak 15-minute period within the hour analyzed. The average control delay includes initial deceleration delay, queue move-up time, and final acceleration time in addition to the stop delay. The LOS for unsignalized intersections is determined by the computed or measured control delay and is defined for each minor movement. At an all-way stop controlled intersection, the delay reported is the average control delay of the intersection. At a one-way or two-way stop controlled intersection, the delay reported represents the worst movement, typically the left runs from the minor street approach. The threshold of LOS D, a delay of 55 seconds per vehicle is considered acceptable for signalized intersections and a delay of 35 seconds per vehicle at LOS D is considered acceptable for unsignalized intersections.

Freeway Segments

Freeway segments are analyzed using standard Caltrans methodologies. The procedures for determining freeway LOS involve calculating a peak hour volume to capacity ratio (V/C). Peak hour volumes are estimated from the application of design

hour ("K"), directional ("D") and truck ("T") factors to ADT volumes. The truck factors (percent trucks) are obtained from historic Caltrans data, local truck counts, and projections of future volumes at the border crossings. The resulting V/C ratio is then compared with accepted ranges of V/C values corresponding to the various LOS. The corresponding LOS represents an approximation of existing or forecasted freeway operating conditions during the peak hour. Caltrans has developed four levels of freeway congestion within LOS F, ranging from F(0) (considered congestion) to F(3) (gridlock). Any facility operating at LOS E (0.93 to 1.00 V/C) or F (over 1.01 V/C) is considered an unacceptable LOS.

Freeway Ramp Metering

Freeway ramp meters are considered to operate acceptably if the vehicle delay is less than 15 minutes. If the vehicle delay exceeds 15 minutes at a freeway on-ramp meter and the downstream freeway is operating at LOS E or F, the delay is considered unacceptable.

5.12.1.2 Existing Circulation System

Much of the land in the CPU area is undeveloped. Only the developed residential areas on the western side of the CPU area have consistently improved roads created through a comprehensive funding and phasing system. Roads in the rest of the CPU area have been improved incrementally as property frontages have developed. Therefore, much of the street system is unconnected and incomplete.

I-805 and SR-125 provide regional north-south access to Otay Mesa. SR-125, known as the South Bay Expressway, provides an extension of SR-125 from SR-54 in Spring Valley to SR-905. The South Bay Expressway is operated as a toll road by SANDAG.

SR-905, Otay Mesa Road, and Palm Avenue provide east-west connections from the CPU area to I-805. SR-905 provides connection from the Otay Mesa POE and CPU area surface streets with regional freeway I-805. At the time of the existing conditions analysis, a 4.5-mile portion of SR-905 was a conventional highway (Otay Mesa Road). The SR-905 freeway was recently completed within the CPU area and was opened to traffic in July 2012. The existing conditions analysis is based on data collected before the SR-905 freeway was opened to traffic from Britannia Boulevard to the international border.

a. Key Freeways and Roadways

The following are general descriptions of key roadways within the community divided into three categories: roads that provide access to and from the community, roads within residential areas, and roads within industrial areas. Also, the major truck routes utilized to transport goods are listed below.

Community Access Freeways and Roads[1]

I-805 – is a north-south freeway that starts from approximately three-quarters of a mile north of the U.S.-Mexico border, extends through San Diego, Chula Vista, National City, and connects to I-5 in Sorrento Valley. This freeway is located to the west of the CPU area and contains ramps to SR-905. Near the CPU area, this freeway is four lanes at its southern origination point to eight lanes further north.

SR-905 – a six-lane freeway that extends into Otay Mesa for a mile from its interchange with I-805 and transitions into Otay Mesa Road, a six-lane Primary Arterial for approximately 4.5 miles where it connects to another one-mile freeway portion that ends at the Port of Entry.

SR-125 – is a north-south freeway located to the east of the CPU area extending from Otay Mesa Road at approximately 1.25 miles north of the U.S.-Mexico border north to SR-52. It provides a connection between Otay Mesa, Chula Vista, Spring Valley, Lemon Grove, La Mesa, San Diego, and Santee. The southern segment between Otay Mesa Road and SR-54 is a four-lane toll road called the South Bay Expressway.

Old Otay Mesa Road – a two-lane Collector (without left-turn lane) connecting Otay Mesa with San Ysidro. It extends along the rim of a canyon and intersects with SR-905/Otay Mesa Road.

Del Sol Boulevard – a four-lane Collector (with left-turn lane) as it crosses under I-805 from Otay Mesa-Nestor. It intersects Dennery Road and then continues for approximately a quarter-mile as a two-lane Collector (with left-turn lane).

Palm Avenue – crosses over I-805 from Otay Mesa-Nestor on a four-lane bridge with double left-turn-lanes at the interchange of Palm Avenue and I-805. Palm Avenue transitions to a six-lane Primary Arterial, and intersects with Dennery Road.

Otay Valley Road – a six-lane major road, Main Street, at I-805 in the City of Chula Vista. Otay Valley Road crosses the Otay River on a two-lane bridge with a center turn lane and continues as a two-lane Collector (without left-turn lane) into the City of San Diego.

Otay Mesa Road – from the terminus of SR-905, Otay Mesa Road is constructed as a six-lane Primary Arterial to Otay Center Road. It is constructed as a seven-lane Major

---

[1]Note that this section describes the existing conditions assumed in the traffic impact analysis (Appendix J). Additional improvements may currently be in place, such as the SR-905 freeway improvements.

Arterial between Otay Center Road and La Media Road. It transitions to a four-lane Major Arterial east of La Media Road and intersects with the SR-125 southbound off-ramp and northbound on-ramp, and continues east into County of San Diego lands.

Otay Mesa Border Crossing and Port of Entry – a second border crossing between the U.S. and Mexico located at the southeast corner of Otay Mesa. This POE allows automobiles but is primarily used for truck traffic, which is predominant throughout the community of Otay Mesa.

Roads within Residential Areas

Dennery Road – is constructed as a four-lane Major Arterial between Del Sol Boulevard and Palm Avenue. North of Palm Avenue, the road transitions to a four-lane Collector (with left-turn lane) and eventually transitions to a two-lane Collector (without fronting property).

Ocean View Hills Parkway – is a four-lane Major Arterial road extending from Dennery Road to Del Sol Boulevard. South of Del Sol Boulevard this roadway is constructed as a six-lane Major Arterial and intersects with conventional highway SR-905/Otay Mesa Road.

Avenida de las Vistas – is a two-lane Collector (without fronting property) extending west of Otay Valley Road. The residential development along Avenida de las Vistas can be accessed via Otay Valley Road to the north or Otay Mesa Road from the south.

Caliente Avenue – is a partially built four-lane Major Arterial extending south from Otay Mesa Road, intersecting with Airway Road. This segment will be constructed as six lanes as part of the SR-905 interchange currently under construction at this location.

Beyer Boulevard – is a four-lane Major Arterial extending from Old Otay Mesa Road westerly into the San Ysidro Community Plan area, and provides access to the nearby Beyer Boulevard transit station.

Roads Within Industrial Areas

Airway Road – is an east-west, partially built roadway varying in width that runs parallel with Otay Mesa Road from Britannia Boulevard to the County boundary. The western segment of Airway Road is a three-lane Collector (2 lanes eastbound, 1 lane westbound) between Old Otay Mesa Road and Caliente Avenue, and provides access to San Ysidro High School.

Siempre Viva Road – is an east-west, partially built roadway varying in width between Cactus Road and La Media Road. East of La Media Road, Siempre Viva Road is a six-lane Primary Arterial with an interchange at SR-905 and then transitions to a four-lane Major Arterial from Paseo de las Americas to the County boundary.

Heritage Road – is a north-south, partially built roadway varying in width from Otay Valley Road to its terminus south of Gateway Park Drive.

Cactus Road – is a north-south, four-lane Collector (with left-turn lane) south of Otay Mesa Road, ending at the SR-905 right-of-way. South of SR-905 it is partially constructed with two lanes.

Britannia Boulevard – is a north-south, partially built Major Arterial roadway extending between Otay Mesa Road and Siempre Viva Road. The SR-905 interchange is under construction between Otay Mesa Road and Airway Road. South of Airway Road, portions are built as a four-lane Major Arterial, while some segments are only constructed to half-width.

La Media Road – is a north-south, partially built Major Arterial extending from north of Otay Mesa Road to Siempre Viva Road. The SR-905 interchange is under construction between Otay Mesa Road and Airway Road. South of Airway Road only two lanes are built, extending to a truck only road extending to the east Otay Mesa inspection facility. This road is currently the designated southbound truck route for laden (carrying cargo) trucks from conventional highway SR-905/Otay Mesa Road to the east Otay Mesa inspection facility.

Truck Routes

Truck routes within the CPU area are an important component of the circulation system. The Otay Mesa POE provides a major commercial truck transport point between the U.S. and Mexico. From the POE, trucks travel to the warehouses/distribution facilities within the CPU area and to major freeways for further distribution. Currently, the major truck routes utilized to transport goods include SR-905, SR-125, La Media Road, Siempre Viva Road, Britannia Boulevard, and Otay Mesa Road. These roads are described above. Drucker Lane is a minor roadway utilized as a truck route connection between Siempre Viva Road and La Media Road. This roadway is five lanes at the intersection of Siempre Viva Road, and four lanes from just south of that intersection to Kern Street, and is reduced down to one southbound lane between Kern Street and La Media Road. Truck traffic heading to Mexico through the Otay Mesa POE typically queue on Drucker Lane and La Media Road.

b. Key Intersections

There are 15 key intersections within the study area under the existing conditions, which are as follows:

1. Palm Avenue/I-805 SB Ramps
2. Palm Avenue/I-805 NB Ramps
3. Palm Avenue/Dennery Road

4. Otay Mesa Road/Caliente Avenue
5. Otay Mesa Road/Corporate Center Drive
6. Otay Mesa Road/Heritage Road
7. Otay Mesa Road/Cactus Road
8. Otay Mesa Road/Britannia Boulevard
9. Otay Mesa Road/La Media Road
10. Otay Mesa Road/Piper Ranch Road
11. Otay Mesa Road/SR-125 SB Off-ramp
12. Otay Mesa Road/SR-125 NB On-ramp

13A. Siempre Viva Road/SR-905 SB Ramps
13B. SR-905 SB Off-ramp to WB Siempre Viva Road (unsignalized)
14. Siempre Viva Road /SR-905 NB Ramps

All of these intersections are currently signalized with the exception of 13B.

5.12.1.3 Existing Traffic Volumes

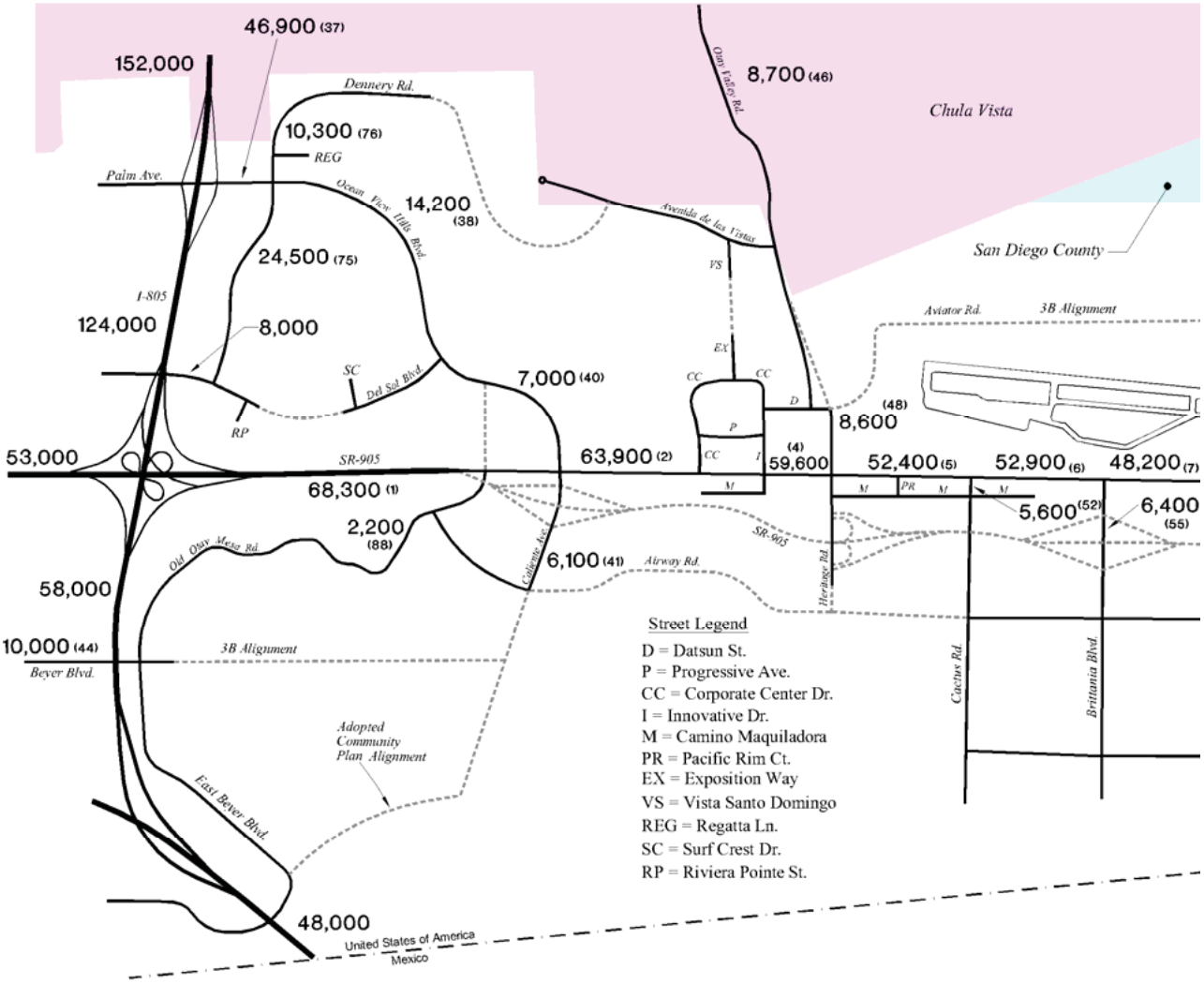
Existing traffic volumes are based on recent traffic counts (2005 to 2010) conducted by Caltrans, the City of San Diego, or recently counted for other project study purposes. It is noted that traffic volumes were obtained before the opening of SR-905 Phase 1-A improvements from the partial Britannia Boulevard interchange to east of the La Media Road partial interchange. Due to the high number of trucks utilizing CPU area roadways compared to typical San Diego communities, the truck percentage of vehicular traffic assumed in the analysis summarized below was increased from the typical 2 percent to 10 percent.

a. Roadway Segments

The existing ADT volumes for road segments within the CPU area are shown in Figures 5.12-1a and 5.12-1b. Table 5.12-1 shows existing street segment LOS based on the City of San Diego Traffic Impact Manual. As shown, all roadway segments except the following seven operate at an acceptable LOS D or better:

1. Otay Mesa Road from SR-905 to Caliente Avenue (LOS F)
2. Otay Mesa Road from Caliente Avenue to Corporate Center Drive (LOS F)
3. Otay Mesa Road from Corporate Center Drive to Heritage Road (LOS E
4. Otay Mesa Road from Otay Mesa Center Road to La Media Road (LOS E)
5. Heritage Road/Otay Valley Road from Main Street to Avenida de las Vistas (LOS F)
6. Heritage Road/Otay Valley Road from Avenida de las Vistas to Otay Mesa Road (LOS F)
7. La Media Road from Airway Road to Siempre Viva Road (LOS F)

Map Source: Urban Systems Associates, Inc. 2012



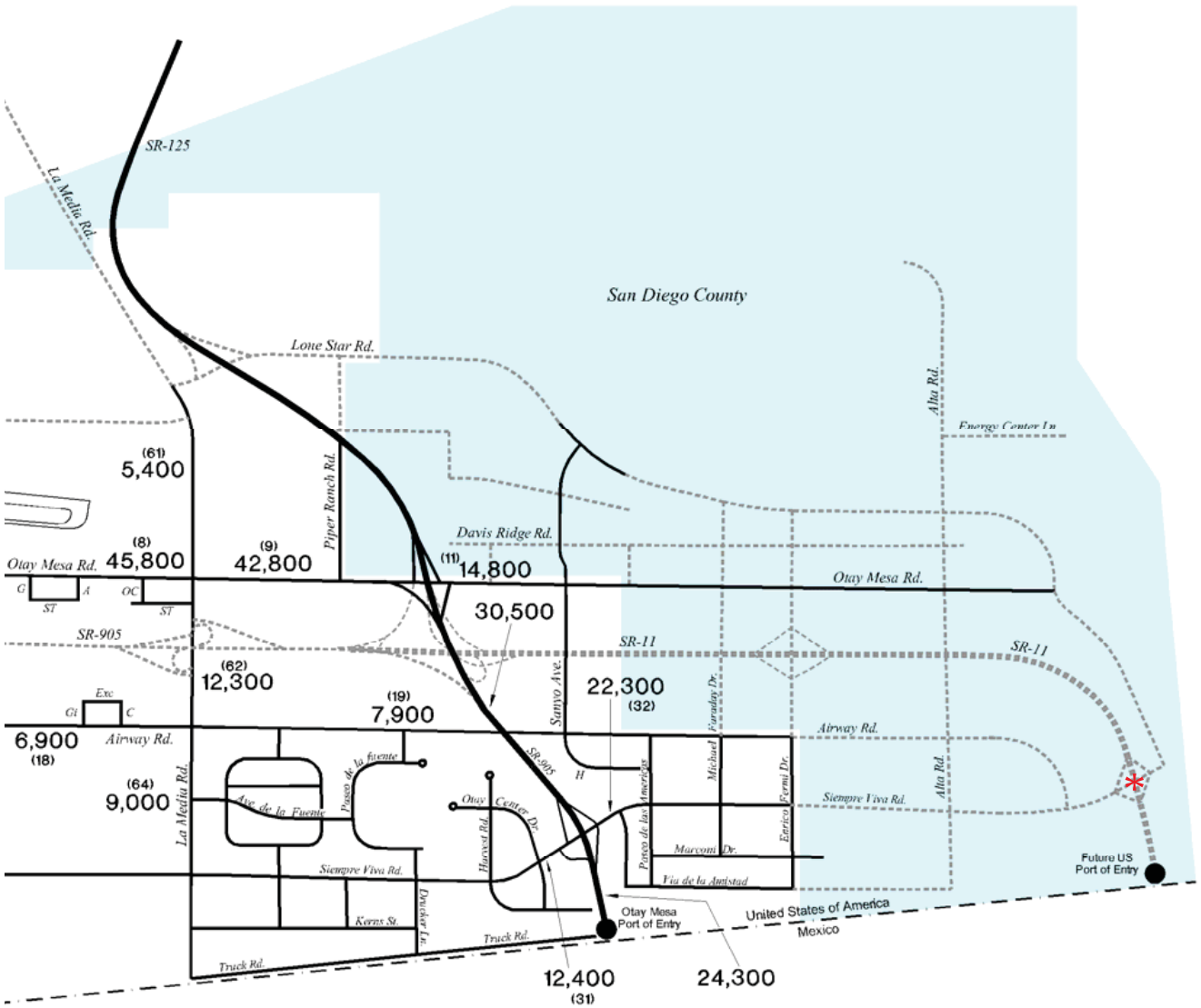
(XX) = Segment number, coincides with Buildout segment numbers.

Not to Scale

FIGURE 5.12-1a

Existing Condition Roadway Segment Volumes (West)

Map Source: Urban Systems Associates, Inc. 2012



Street Legend

OC = Otay Mesa Ctr. Rd.
G = Gailes Blvd.
A = Ailsa Ct.
ST = St. Andrews Ave.
H = Heinrich Hertz Dr.
C = Centurion St.
Gi = Gigantic St.
Exc = Excellante St.

(XX) = Segment number, coincides with Buildout segment numbers.

* - Half interchange preferred by Caltrans and City

Not to Scale

FIGURE 5.12-1b

Existing Condition Roadway Segment Volumes (East)

TABLE 5.12-1
EXISTING SEGMENT OPERATIONS

Street Segment	Class	LOS E ADT	Existing ADT	V/C	LOS
Otay Mesa Road					
SR-905 to Caliente Ave.	6-PA	60,000	68,300	1.14	**F**
Caliente Ave. to Corporate Center Dr.	6-PA	60,000	63,900	1.07	**F**
Corporate Center Dr. to Heritage Rd.	6-PA	60,000	59,600	0.99	**E**
Heritage Rd. to Cactus Rd.	6-PA	60,000	52,400	0.87	D
Cactus Rd. to Britannia Blvd.	6-PA	60,000	52,900	0.88	D
Britannia Blvd. to Otay Mesa Center Rd.	6-PA	60,000	48,200	0.80	C
Otay Mesa Center Rd. to La Media Rd.	7-M	55,000	45,800	0.84	**E**
La Media Road to SR-125 SB Ramps	5-PA	55,000	42,800	0.78	C
SR-125 NB Ramps to Sanyo Ave.	4-M	40,000	14,800	0.37	A
Airway Road					
Britannia Blvd. to La Media Rd.	2-CL	15,000	6,900	0.46	B
La Media Rd. to Sanyo Ave.	2-CL	15,000	7,900	0.53	C
Siempre Viva Road					
Harvest Rd. to SR-905 SB Ramps	6-PA	60,000	12,400	0.21	A
SR-905 NB Ramps to Paseo de las Americas	6-PA	60,000	22,300	0.37	A
Palm Avenue					
I-805 NB Ramps to Dennery Rd.	6-PA	60,000	46,900	0.78	C
Ocean View Hills Parkway					
Dennery Rd. to Del Sol Blvd.	4-M	40,000	14,200	0.36	A
Del Sol Blvd. to Otay Mesa Rd.	6-M	50,000	7,000	0.14	A
Caliente Avenue					
Otay Mesa Rd. to Airway Rd.	4-M	40,000	6,100	0.15	A
Old Otay Mesa Road					
Otay Mesa Rd. to Airway Rd.	2-C	8,000	2,200	0.28	A
Beyer Boulevard					
Smythe Ave. to Old Otay Mesa Rd.	4-M	40,000	10,000	0.24	A
Heritage Road/Otay Valley Road					
Main St. to Avenida De Las Vistas	2-C	8,000	8,700	1.09	**F**
Avenida De Las Vistas to Otay Mesa Rd.	2-C	8,000	8,600	1.08	**F**
Cactus Road					
Otay Mesa Rd. to SR-905	4-CL	30,000	5,600	0.19	A
Britannia Boulevard					
Otay Mesa Rd. to Airway Rd.	4-M	40,000	6,400	0.16	A
La Media Road					
North of to Otay Mesa Rd.	2-CL	15,000	5,400	0.36	B
Otay Mesa Rd. to Airway Rd.	2-CL	15,000	12,300	0.82	D
Airway Rd. to Siempre Viva Rd.	2-C	8,000	9,000	1.13	**F**
Dennery Road					
Palm Ave. to Regatta Ln.	4-M	40,000	10,300	0.26	A
Palm Ave. to Walmart Dr.	4-M	40,000	24,500	0.61	C
Del Sol Boulevard					
West of Dennery Rd.	4-C	15,000	8,000	0.53	C

SOURCE: Appendix J (Urban Systems Associates, Inc.)

Shade/Bold = Unacceptable LOS; 7-M = 7-Lane Major Arterial; 6-PA = 6-Lane Primary Arterial; 6-M = 6-Lane Major; 4-M = 4-Lane Major; 5-PA = Lane Primary Arterial; 4-CL = 4-Lane Collector (With Left-Lane Turn Lane); 4-C = 4-Lane Collector (Without Left-Turn Lane); 2-CL = 2-Lane Collector (With Left-Turn Lane); and 2-C = 2-Lane Collector (Without Left-Turn Lane, Industrial Fronting).

b. Intersections

Existing intersection LOS is shown in Table 5.12-2 and Figures 5.12-2a and 5.12-2b. All intersections currently operate at LOS D or better during the AM and PM peak hour periods except at the one following location:

1. Otay Mesa Road/Heritage Road (LOS E in the AM peak hour)

TABLE 5.12-2
EXISTING INTERSECTION LEVELS OF SERVICE

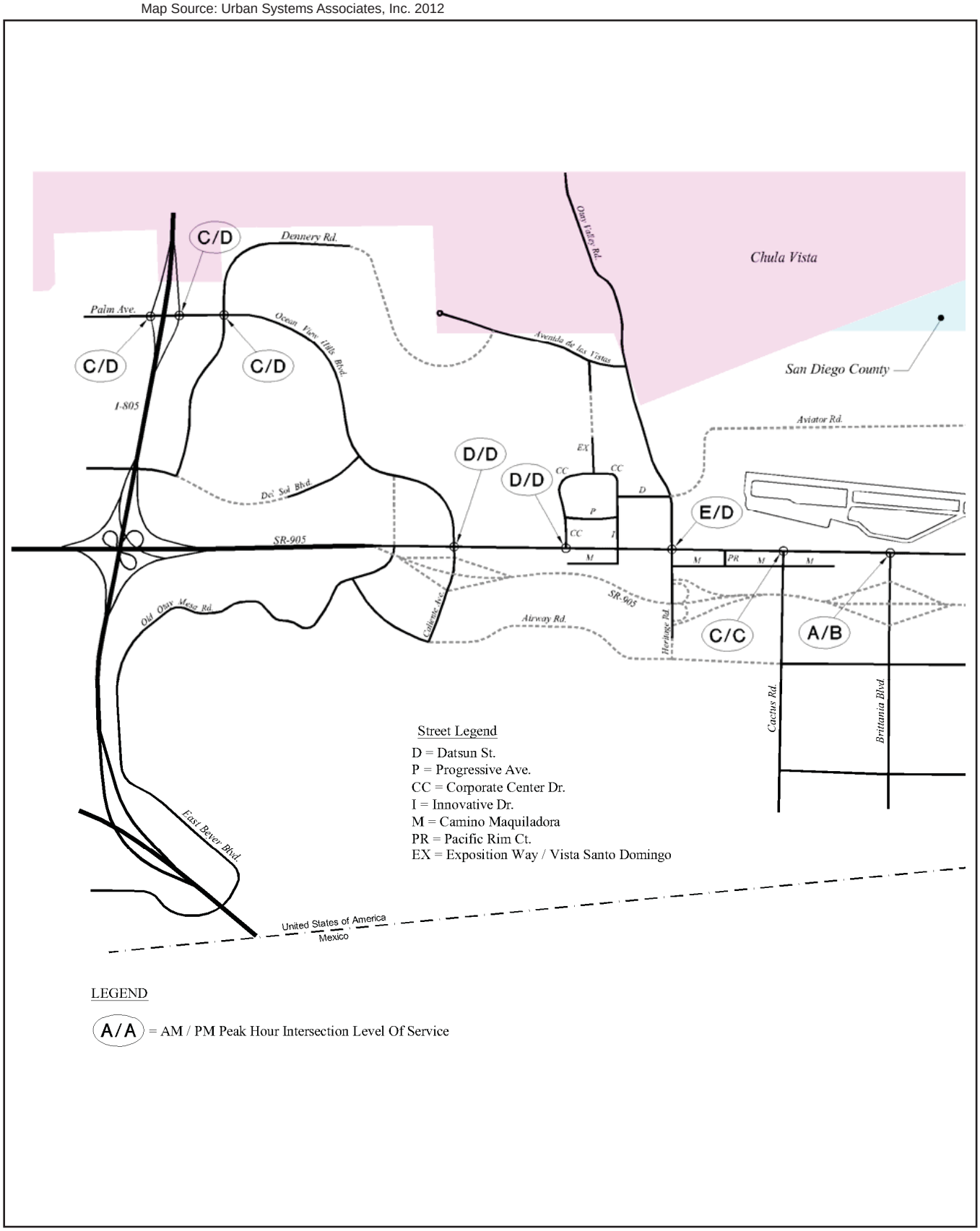
	Intersection	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1	Palm Ave./I-805 SB Ramps	27.5	C	45.4	D
2	Palm Ave./I-805 NB Ramps	33.4	C	51.0	D
3	Palm Ave./Dennery Rd.	34.9	C	37.9	D
4	Otay Mesa Rd./Caliente Ave.	44.4	D	40.2	D
5	Otay Mesa Rd./Corporate Center Dr.	35.7	D	35.0	D
6	Otay Mesa Rd./Heritage Rd.	60.5	**E**	42.6	D
7	Otay Mesa Rd./Cactus Rd.	33.4	C	31.6	C
8	Otay Mesa Rd./Britannia Blvd.	7.3	A	11.4	B
9	Otay Mesa Rd./La Media Rd.	15.8	B	43.2	D
10	Otay Mesa Rd./Piper Ranch Rd.	8.3	A	9.4	A
11	Otay Mesa Rd./SR-125 SB Off-Ramp.	7.6	A	3.7	A
12	Otay Mesa Rd./SR-125 NB On-Ramp	0.8	A	3.2	A
13A	Siempre Viva Rd./SR-905 SB Ramps	16.1	B	11.6	B
13B	SR-905 SB Off Ramp to WB Siempre Viva Rd.	14.3	B	14.4	B
14	Siempre Viva Rd./SR-905 NB Ramps	14.5	B	14.6	B

SOURCE: Appendix J (Urban Systems Associates, Inc. 2012).
Delay = Control Delay in seconds
LOS = Level of Service
Shade/Bold = Unacceptable LOS

c. Freeway Segments

Existing ADT and LOS for freeway segments within the CPU area are shown in Table 5.12-3. As shown, all freeway segments currently operate at an acceptable LOS D or better.

Map Source: Urban Systems Associates, Inc. 2012

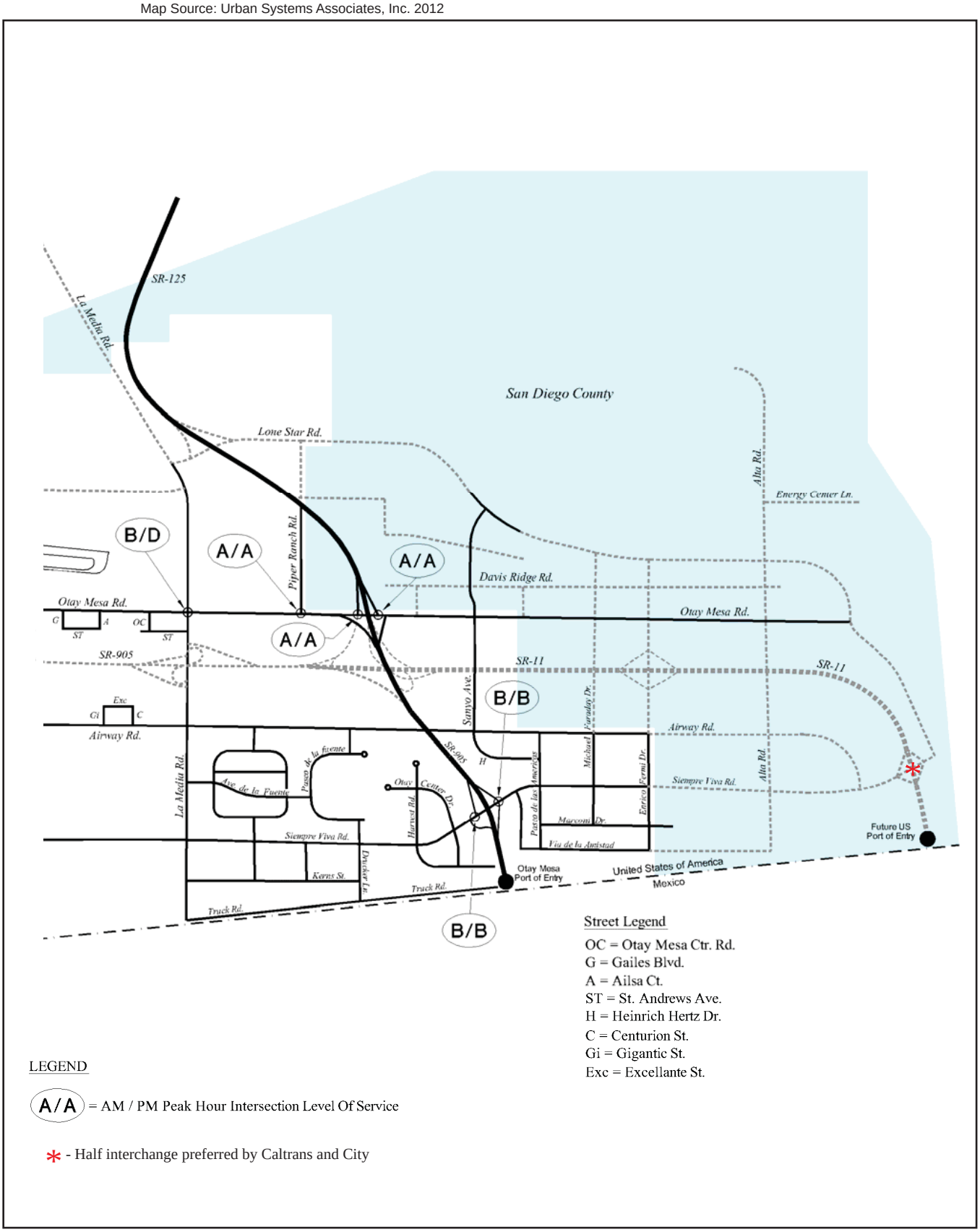


Not to Scale

FIGURE 5.12-2a

Existing Condition Intersection LOS (West)

Map Source: Urban Systems Associates, Inc. 2012



Street Legend

OC = Otay Mesa Ctr. Rd.
G = Gailes Blvd.
A = Ailsa Ct.
ST = St. Andrews Ave.
H = Heinrich Hertz Dr.
C = Centurion St.
Gi = Gigantic St.
Exc = Excellante St.

LEGEND

A/A = AM / PM Peak Hour Intersection Level Of Service

* - Half interchange preferred by Caltrans and City

Not to Scale

FIGURE 5.12-2b

Existing Condition Intersection LOS (East)

TABLE 5.12-3
EXISTING FREEWAY SEGMENT LEVELS OF SERVICE

Freeway Segment	Lanes (1-Way)	Capacity	ADT	Peak Volume	V/C	LOS
Interstate 805						
Otay Valley Rd. - Palm Ave.	4+AUX	11,200	152,000	8,107	0.72	C
Palm Ave. - SR-905	4	9,400	124,000	6,613	0.70	C
SR-905 - San Ysidro Blvd.	4	9,400	58,000	3,093	0.33	A
SR-905						
Picador Blvd. - I-805	2	4,700	53,000	2,827	0.60	B
I-805 – Caliente Ave.	2	4,700	58,300	3,109	0.66	C
Otay Mesa Rd. - Siempre Viva Rd.	2	4,700	30,500	1,600	0.34	A
Siempre Viva Rd. – Border	3	4,700	24,300	1,296	0.28	A

SOURCE: Appendix J (Urban Systems Associates, Inc. 2012).
ADT = average daily traffic; V/C = volume-to-capacity ratio; LOS = level of service

5.12.1.4 Alternative Transportation

a. Transit

Within the CPU area, transit services are provided by the MTS. The northwestern part of the CPU area is served by bus routes 933/934 (MTS 2011). The routes travel to and from Del Sol Boulevard to Dennery Road to Palm Avenue into and out of the community. These routes serve the shopping centers along Dennery Road, the medical offices on Palm Avenue and Dennery Road, and the residences within this area. The eastern portion of the community is served by bus routes 905 and 905A. Bus route 905 provides regular service through the CPU area along Otay Mesa Road and SR-905. Bus route 905A provides limited service from Otay Mesa Road to SR-905 via Britannia Boulevard, Airway Road, La Media Road, and Siempre Viva Road with stops at Airway Road and Britannia Boulevard and Siempre Viva Road and Drucker Lane.

The Blue Line Trolley, which is outside of the CPU boundary, travels along the east side of I-5 within the neighboring community of San Ysidro and terminates at the San Ysidro Transit Center located at the U.S.-Mexico International Border.

b. Bikeways

The American Association of Highway and Transportation (AASHTO) and Caltrans have developed design standards for bikeways. The Caltrans Highway Design Manual, Chapter 1000: Bikeway Planning and Design, serves as the official standard for all bicycle facilities in California. While all roadways are open to bicycle travel unless it is specifically prohibited, the California Highway Design Manual establishes three classifications of facilities specifically for bicycle traffic. Based on the Otay Mesa Existing Conditions Report (City of San Diego 2004), there are Class II bikeways along Old Otay Mesa Road, portions of SR-905, Dennery Road, Ocean View Hills Parkway, Del Sol Boulevard, portions of Siempre Viva Road, Heinrick Hertz, Paseo de las

Americas, a portion of Enrico Fermi Drive, and Roll Drive within the CPU area. Per the City Street Design Manual, a Class II bikeway should include 6-foot striped bike lanes with signs and pavement markings (City of San Diego 2002). Informal trails exist throughout the CPU area and are used by recreational bicyclists as well. These informal bikeways are not designated trails and often travel through private property.

c. Pedestrian Facilities

Sidewalk requirements for the City of San Diego are established through the Street Design Manual (City of San Diego 2002). The design requirements include a minimum 5-foot sidewalk, curb ramps at intersections, and compliance with the Americans with Disabilities Act (ADA). Sidewalks are generally required on both sides of streets. Sidewalks exist within the residential developments in the western CPU area. The majority of the commercial and industrial developments completed within the last 10 years provided sidewalks along their frontage roadways. However, sidewalks do not exist on many of the streets fronted by older developments and vacant properties. Informal trails exist throughout the CPU area, which are used by pedestrians but, as mentioned above, these trails are not designated and often are on private property.

5.12.2 Significance Determination Thresholds

Based on the City's Significance Determination Thresholds, impacts related to traffic and circulation would be significant if the CPU would:

1. Result in an increase in projected traffic that is substantial in relation to the capacity of the circulation system;

2. Result in an increase in traffic hazards for motor vehicles, bicyclists, or pedestrians;

3. Create alterations to present circulation movements in the area including effects on existing public access points; or

4. Conflict with the adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, trolley extensions, bicycle lanes, bicycle racks, etc.).

For this programmatic analysis, the CPU would result in a significant impact if a roadway segment, intersection, freeway segment, or freeway ramp meter would operate unacceptably in the Horizon Year Plus CPU condition. Since much of the community is undeveloped, a majority of the Circulation Element roadways are not built, are only partially built, or are not operating near capacity. The result of this is that for many facilities, an analysis of the CPU land uses on the existing transportation network was not possible or meaningful for purposes of identifying significant impacts or

recommended mitigations. Therefore, the proposed CPU land uses were analyzed on the draft CPU transportation network. As stated previously, roadway segments, intersections, and freeway segments are considered to operate acceptably from LOS A to LOS D, and unacceptably at LOS E or F. Metered freeway ramps are considered to operate unacceptably if the delay exceeds 15 minutes and the downstream freeway segment operates at an unacceptable LOS E or F.

5.12.3 Issue 1: Capacity

Would the CPU result in an increase in projected traffic that is substantial in relation to the capacity of the circulation system?

5.12.3.1 Impacts

a. Horizon Year plus CPU Assumptions

SANDAG's 2050 RTP indicates that substantial improvements would be made to the regional transportation system through Year 2050. Regional changes that would affect transportation/circulation include transit, managed/high-occupancy vehicle (HOV) lanes, highway, local roads, transportation demand management, land use, bicycle/pedestrian, and other related efforts. It should be noted that the RTP was updated several times during the development of the CPU. During its development, the TIS analysis was updated to reflect the current RTP. The travel forecast model used to develop future traffic volumes in the TIS was based on the Series 11 Regional Transportation Model which incorporates land use, population, and employment data then estimated for the year 2030. Land uses within the Otay Mesa Community Planning area were assumed to be built out within the traffic model using reasonable maximum development assumptions. The model network included the future improvements that were assumed to be completed, and included Year 2030 Regional Transportation Plan "Reasonably Expected" projects in the region. The Otay Mesa model was modified to include a half-diamond interchange at SR-125 / Lone Star Road. Also, a portion of SR-125 was assumed as a toll facility and modeled to approximate toll conditions.

The differences in the vehicular circulation network between the existing conditions and the Horizon Year plus CPU primarily result from: (1) improvements completed or expected to be completed as a part of future discretionary projects, consistent with the CPU Mobility Element; (2) funded and scheduled Otay Mesa Public Facilities Financing Plan transportation projects; and (3) planned Caltrans improvements.

At the Horizon Year, the following improvements are assumed to be completed through buildout of the CPU Mobility Element roadway network (see Figure 3-6). Roadway improvements necessary to implement the CPU Mobility Element roadway network would be included in the PFFP for Otay Mesa and implemented in conjunction with

future projects, as conditions of approval or through payment of Facilities Benefit Assessment (FBA) fees.

- Otay Mesa Road as a 6-lane Primary Arterial from Caliente Avenue to the City limits.

- Airway Road as a 4-lane Collector street west of Caliente Avenue; as a 4-lane Major street from Caliente Avenue to west of Heritage Road; as a 6-lane Primary Arterial from Heritage Road to Cactus Road; as a 6-lane Major Street from Cactus Road to Britannia Boulevard; and as a 4-lane Major Street from Britannia Boulevard to Enrico Fermi Drive (City limits).

- Siempre Viva Road as a 6-lane Primary Arterial from Cactus Road to Paseo de las Americas; and as a 2-lane Collector with two-way left turn lane from Caliente to the west (not connecting to the community of San Ysidro).

- Sanyo Avenue as a four-lane Collector with two-way left turn lane, between Otay Mesa Road and Airway Road.

- Heinrich Hertz as a two-lane Collector with two-way left turn lane between Airway Road and Paseo de las Americas.

- Harvest Road as a 2-lane Collector from Otay Mesa Road to SR 905; and as a 4-lane Collector with two-way left turn lane from Airway to Siempre Viva Road.

- Otay Center Drive as a four-lane Collector with left-turn lane from Harvest Road to Siempre Viva Road.

- Piper Ranch Road as a 4-lane Collector with two-way left turn lane from Lone Star Road to Otay Mesa Road including a freeway underpass at SR 125.

- La Media Road as a 4-lane Major street from Lone Star Road to Otay Mesa Road; as a 6-lane Primary Arterial from Otay Mesa Road to Airway Road; and as a 5-lane Major Street from Airway Road to Siempre Viva Road.

- Lone Star Road as a 6-lane Primary Arterial from La Media Road to the City limits.

- Off-ramp from SR 125 Southbound to Lone Star Road and On-ramp from Lonestar Road to SR 125 Northbound.

- Britannia Boulevard as a 6-lane Primary Arterial from Otay Mesa Road to Airway Road; as a 6-lane Major street from Airway Road to Siempre Viva Road; and as a 4-lane Collector with two-way left turn lane from Siempre Viva Road to Britannia Court.

- Cactus Road as a 4-lane Major street from Otay Mesa Road to Siempre Viva Road, including a freeway overpass at SR 905.

- Heritage Road and Otay Valley Road as a 6-lane Primary Arterial from Main Street in Chula Vista to the proposed extension of Airway Road.

- Caliente Avenue as a 6-lane Primary Arterial from Otay Mesa Road to Airway Road; as a 6-lane Major street from Airway to the proposed Beyer Boulevard; and as a 4-lane Major street from Beyer Boulevard to the proposed Siempre Viva Road.

- Beyer Boulevard as a 4-lane Major Street from Enright Drive to the proposed extension of Caliente Avenue.

- Street A/Old Otay Mesa Road as a 4-lane Major Road from Ocean View Hills Drive to Airway Road including a freeway overpass at SR 905.

- Datsun Street as a 4-lane Collector with two-way left turn lane from Innovative Drive to Heritage Road.

- Aviator Road as a 4-lane Collector with two-way left turn lane from Heritage Road to La Media Road.

- Dennery Road as a 2-lane Collector from Topsail Drive to Avenida de las Vistas.

- Del Sol Boulevard as a 2-lane Collector from Riviera Pointe Street to Surf Crest Drive.

- Vista Santo Domingo/Exposition Way as a 2-lane Collector from Avenida de las Vistas to Corporate Center Drive.

- Emerald Crest Drive as a 4-lane Collector with two way left turn lane from Otay Mesa Road to SR 905.

- Corporate Center Drive as a 4-lane Collector with two way left turn lane from Otay Mesa Road to SR 905.

- Innovative Drive as a 2-lane Collector with two way left turn lane from Otay Mesa Road to SR 905.

- Continental Street as a 2-lane Collector from Otay Mesa Road to Camino Maquiladora; and as a 2-lane Collector with two-way left turn lane from Airway to the north.

- Otay Mesa Center Road as a 4-lane Collector with two-way left turn lane from Otay Mesa Road to Saint Andrews Avenue.

- Saint Andrews Avenue as a 4-lane Collector with two-way left turn lane from Otay Mesa Center Road to La Media Road.
- Paseo de las Americas as a 4-lane Collector with two-way left turn lane from Airway Road to Marconi Drive.
- Marconi Drive as a 2-lane Collector with two-way left turn lane from Paseo de las Americas to Enrico Fermi Drive.
- Avenida Costa Azul as a 4-lane Collector with two-way left turn lane from Otay Mesa Road to the south.

The SANDAG 2050 RTP includes the addition of two managed HOV lanes to the I-805 and a northbound auxiliary lane. As these projects were funded and planned by Caltrans, the analysis included these improvements. SR-905 was designed to allow for future HOV lanes as well; however, the funding for these improvements has not been secured. Therefore, the SR-905 HOV lanes are not included in the traffic analysis. The 2050 RTP also includes SR 11 which will continue east-west from SR 905 to the County to a future additional Port of Entry; a full interchange between SR 125 (toll), SR 905, and the future SR 11 (toll).

As the City of Chula Vista has recently approved a General Plan Amendment (GPA) with the elimination of the La Media Road bridge crossing the Otay River Valley, two 2050 Horizon Year scenarios were analyzed in the TIA (see Appendix J). The Horizon Year without the La Media Road Connection Scenario is utilized to determine the environmental impacts in this section of the PEIR because La Media Road is not reasonably expected to be completed.

As indicated in Section 5.12.2, in order to provide a meaningful analysis and identify ultimate recommendations, the traffic study analyzed roadways based on the Adopted Community Plan Classifications instead of the existing functional classifications. The TIA (see Appendix J) analysis identifies recommended CPU classifications, which were incorporated into the CPU (Mobility Element). The proposed classifications incorporated into the CPU are shown in Table 5.12-4 below.

TABLE 5.12-4
PROPOSED CPU ROADWAY CLASSIFICATIONS

Street	Segment	Existing CP Class	CPU Class
Otay Mesa Road	Street A to Caliente Ave.	6-PA	6-M
	Alisa Ct. to La Media Rd.	6-PA	6-PA
	La Media Rd. to Piper Ranch Rd.	7-M	6-PA
	Piper Ranch Rd. to SR-125	8-M	6-PA
	SR-125 to Harvest Rd.	4-P	6-PA
	Harvest Rd. to Sanyo Ave.	4-M	6-PA
	Sanyo Ave. to Enrico Fermi Dr.	4-M	6-PA
Airway Road	Heritage Rd. to Cactus Rd.	4-M	6-PA
	Cactus Rd. to Britannia Blvd.	4-M	6-M
Siempre Viva Road	Caliente Ave. to West Terminus	4-M	2-CL
Caliente Avenue	Otay Mesa Rd. to SR-905	6-M	6-PA
	SR-905 to Airway Rd.	6-M	6-PA
	Airway Rd. to Beyer Blvd.	4-M	6-M
Heritage Road/Otay Valley Road	Avenida De Las Vistas to Datsun St.	6-M	6-PA
	Datsun St. to Otay Mesa Rd.	6-M	6-PA
	Otay Mesa Rd. to SR-905	6-M	6-PA
	SR-905 to Airway Rd.	6-M	6-PA
Cactus Road	Otay Mesa Rd. to Airway Rd.	4-CL	4-M
	Airway Rd. to Siempre Viva Rd.	4-CL	4-M
Britannia Boulevard	Otay Mesa Rd. to SR-905	4-M	6-PA
	SR-905 to Airway Rd.	4-M	6-PA
	Airway Rd. to Siempre Viva Rd.	4-M	6-M
	Siempre Viva Rd. to South End	2-C	4-CL
La Media Road	Birch Rd. to Lone Star Rd.	6-PA	N/A
	Lone Star Rd. to Aviator Rd.	6-PA	4-M
	Aviator Rd. to Otay Mesa Rd.	6-PA	4-M
	Airway Rd. to Siempre Viva Rd.	4-M	5-M
Harvest Road	South of Otay Mesa Rd.	4-M	2-CL
	Airway Rd. to Otay Center Dr.	4-M	4-CL
	Otay Center Dr. to Siempre Viva Rd.	4-M	4-CL
Enrico Fermi Drive	Airway Rd. to Siempre Viva Rd.	4-M	4-CL
	Siempre Viva Rd. to Via de la Amistad	4-M	4-CL
Lone Star Road	SR-125 to Piper Ranch Rd.	4-M	6-PA
	Piper Ranch Rd. to City/County Boundary	4-M	6-PA
Aviator Road	Heritage Rd. to La Media Rd. [1]	2-C	4-CL
Corporate Center Drive	Progressive Ave. to Innovative Dr.	2-C	2-CL
Sanyo Avenue	Otay Mesa Rd. to Airway Rd. [2]	4-C	4-CL
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	2-C	4-CL
	Siempre Viva Rd. to Marconi Dr.	2-C	4-CL
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	2-C	2-CL
Otay Center Drive	Harvest Rd. to Siempre Viva Rd.[2]	4-C	4-CL
St. Andrews Avenue	Otay Mesa Center Rd. to La Media Rd.	2-C	4-CL
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	2-C	4-C
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	2-C	4-CL
Datsun Street	Innovative Dr. to Heritage Rd. [1]	2-C	4-CL
Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave. [1]	2-CL	4-CL
Excellante Street	Airway Rd. to Gigantic St.	4-C	2-C
Gigantic Street	Excellante St. to Centurion St.	4-C	2-C
Centurion Street	Airway Rd. to Gigantic St.	4-C	2-C

1A new roadway added to Circulation Plan by the CPU.
[2]Functional classification is identified in the table, as this roadway is not currently classified.

8-M = 8-lane Major Arterial
7-PA = 7-lane Primary Arterial
7-M = 7-lane Major Arterial
6-PA = 6-lane Primary Arterial
6-M = 6-lane Major Arterial
5-M = 5-lane Major Arterial (3SB /2NB)
4-P = 4-lane Primary Arterial
4-M = 4-lane Major Arterial
4-CL = 4-lane Collector (with continuous left-turn lane)
4-C = 4-lane Collector (without continuous left-turn lane)
2-CL = 2-lane Collector (with continuous left-turn lane)
2-CN = 2-lane Collector (no fronting property)
2-C = 2-lane Collector (without continuous left-turn lane)

b. Horizon Year Plus CPU Condition

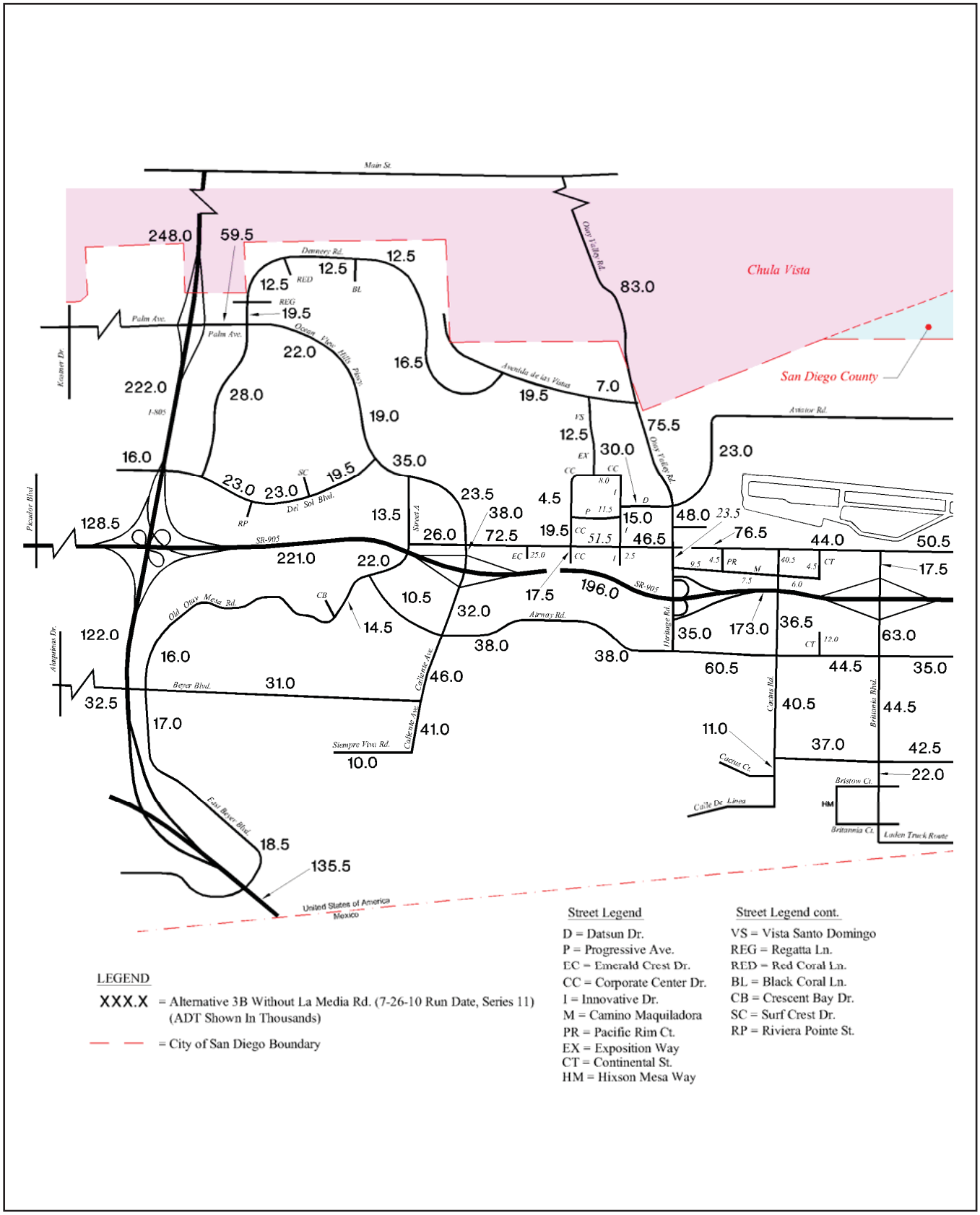
Roadway Segments

The volumes under the Horizon Year Plus CPU conditions are shown on Figures 5.12-3a and 5.12-3b. With the specified proposed classifications, the following roadway segments would be expected to operate at unacceptable levels of service in the Horizon Year Plus CPU condition (Table 5.12-5).

1. Otay Mesa Road, Caliente Ave. to Corporate Center Dr. (LOS F)
2. Otay Mesa Road, Heritage Rd. to Cactus Rd. (LOS F)
3. Airway Road, Caliente Ave. to Heritage Rd. (LOS E)
4. Airway Road, Heritage Rd. to Cactus Rd. (LOS F)
5. Siempre Viva Road, Otay Center Dr. to SR-905 (LOS E)
6. Siempre Viva Road, SR-905 to Paseo de las Americas (LOS F)
7. Caliente Avenue, Airway Rd. to Beyer Blvd. (LOS E)
8. Caliente Avenue, Beyer Blvd. to Siempre Viva Rd. (LOS F)
9. Heritage Road/ Otay Valley Road, Main St. to Avenida de Las Vistas (LOS F)
10. Heritage Road/ Otay Valley Road, Avenida De Las Vistas to Datsun St. (LOS F)
11. Cactus Road, Otay Mesa Rd. to Airway Rd. (LOS F)
12. Cactus Road, Airway Rd. to Siempre Viva Rd. (LOS F)
13. Britannia Boulevard, SR-905 to Airway Rd. (LOS F)
14. La Media Road, SR-905 to Airway Rd. (LOS F)
15. Dennery Road, Black Coral Ln. to East End (LOS F)
16. Avenida De Las Vistas, Vista Santo Domingo to Dennery Rd. (LOS F)
17. Del Sol Boulevard, Surf Crest Dr. to Riviera Pointe (LOS F)
18. Del Sol Boulevard, Riviera Pointe to Dennery Rd. (LOS F)
19. Old Otay Mesa Road, Crescent Bay Dr. to Beyer Blvd. (LOS F)
20. Camino Maquiladora, Heritage Rd. to Pacific Rim Ct. (LOS F)
21. Camino Maquiladora, Pacific Rim Ct. to Cactus Rd. (LOS E)
22. Progressive Avenue, Corporate Center Dr. to Innovative Dr. (LOS F)
23. Datsun Street, Innovative Dr. to Heritage Rd. (LOS F)
24. Exposition Way/Vista Santo Domingo, Avenida de las Vistas to Corporate Dr. (LOS F)

The CPU impacts to the above 24 roadway segments would be significant.

Map Source: Urban Systems Associates, Inc. 2012



LEGEND

XXX.X = Alternative 3B Without La Media Rd. (7-26-10 Run Date, Series 11) (ADT Shown In Thousands)

— — = City of San Diego Boundary

Street Legend

D = Datsun Dr.
P = Progressive Ave.
EC = Emerald Crest Dr.
CC = Corporate Center Dr.
I = Innovative Dr.
M = Camino Maquiladora
PR = Pacific Rim Ct.
EX = Exposition Way
CT = Continental St.
HM = Hixson Mesa Way

Street Legend cont.

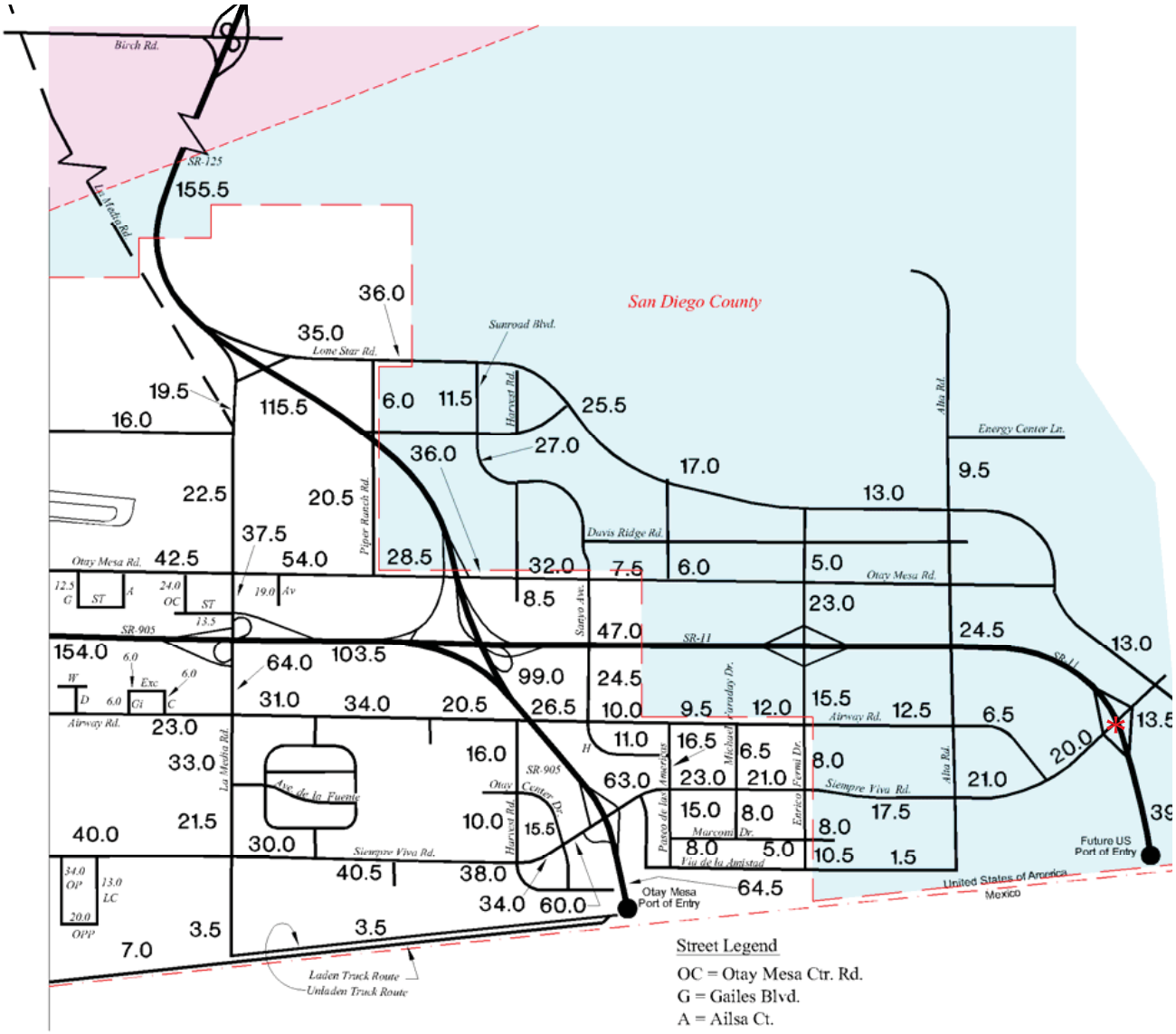
VS = Vista Santo Domingo
REG = Regatta Ln.
RED = Red Coral Ln.
BL = Black Coral Ln.
CB = Crescent Bay Dr.
SC = Surf Crest Dr.
RP = Riviera Pointe St.

Not to Scale

FIGURE 5.12-3a

Horizon Year Plus CPU Condition Roadway Segment Volumes (West)

Map Source: Urban Systems Associates, Inc. 2012



Street Legend

OC = Otay Mesa Ctr. Rd.
G = Gailes Blvd.
A = Ailsa Ct.
ST = St. Andrews Ave.
H = Heinrich Hertz Dr.
C = Centurion St.
Gi = Gigantic St.
Exc = Excellante St.
Av = Avenida Costa Azul
W = Waterville Rd.
D = Dublin Dr.
OP = Otay Pacific Dr.
OPP = Otay Pacific Pl.
LC = Las Californias Dr.

LEGEND

XXX.X = Alternative 3B Without La Media Rd. (7-26-10 Run Date, Series 11) (ADT Shown In Thousands)

— — = City of San Diego Boundary

* - Half interchange preferred by Caltrans and City

Not to Scale

FIGURE 5.12-3b

Horizon Year Plus CPU Condition Roadway Segment Volumes (East)

TABLE 5.12-5
CPU HORIZON YEAR ROADWAY SEGMENT LEVEL OF SERVICE

Street	Segment	Horizon Year					Horizon Year with CPU			Sig?
		Class[1]	LOS E ADT[2]	Segment ADT	V/C	LOS	New Class	New V/C	New LOS	
Otay Mesa Road	Street A to Caliente Ave.	6-PA	60,000	26,000	0.43	B	6-M	0.52	B	N
	Caliente Ave. to Corporate Center Dr.	6-PA	60,000	72,500	1.21	**F**	-	-	-	**Y**
	Corporate Center Dr. to Innovative Dr.	6-PA	60,000	51,500	0.86	D	-	-	-	N
	Innovative Dr. to Heritage Rd.	6-PA	60,000	46,500	0.78	C	-	-	-	N
	Heritage Rd. to Cactus Rd.	6-PA	60,000	76,500	1.28	**F**	-	-	-	**Y**
	Cactus Rd. to Britannia Blvd.	6-PA	60,000	44,000	0.73	C	-	-	-	N
	Britannia Blvd. to Ailsa Ct.	6-PA	60,000	50,500	0.84	D	-	-	-	N
	Alisa Ct. to La Media Rd.	7-M	55,000	42,500	0.77	C	6-PA	0.71	C	N
	La Media Rd. to Piper Ranch Rd.	8-M	70,000	54,000	0.77	C	6-PA	0.90	D	N
	Piper Ranch Rd. to SR-125	4-P	45,000	28,500	0.63	C	6-PA	0.48	B	N
	SR-125 to Harvest Rd.	4-M	40,000	36,000	0.90	**E**	6-PA	0.60	C	N
	Harvest Rd. to Sanyo Ave.	4-M	40,000	32,000	0.80	D	6-PA	0.53	B	N
	Sanyo Ave. to Enrico Fermi Dr.	4-M	40,000	7,500	0.19	A	6-PA	0.13	A	N
Airway Road	Old Otay Mesa Rd. to Caliente Ave.	4-CL	30,000	10,500	0.35	A	-	-	-	N
	Caliente Ave. to Heritage Rd.	4-M	40,000	38,000	0.95	**E**	-	-	-	**Y**
	Heritage Rd. to Cactus Rd.	4-M	40,000	60,500	1.52	**F**	6-PA	1.01	F	**Y**
	Cactus Rd. to Britannia Blvd.	4-M	40,000	44,500	1.11	**F**	6-M	0.89	D	N
	Britannia Blvd. to La Media Rd.	4-M	40,000	35,000	0.88	D	-	-	-	N
	La Media Rd. to Harvest Rd.	4-M	40,000	34,000	0.85	D	-	-	-	N
	Harvest Rd. to Sanyo Ave.	4-M	40,000	26,500	0.66	C	-	-	-	N
	Sanyo Ave. to Paseo de las Americas	4-M	40,000	10,000	0.25	A	-	-	-	N
	Paseo de las Americas to Michael Faraday Dr.	4-M	40,000	9,500	0.24	A	-	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	4-M	40,000	12,000	0.30	A	-	-	-	N
	Enrico Fermi Dr. to Siempre Viva Rd.*	4-M	40,000	12,500	0.31	A	-	-	-	N
Siempre Viva Road	Caliente Ave. to West Terminus	4-M	40,000	10,000	0.25	A	2-CL	0.67	C	N
	Cactus Rd. to Britannia Blvd.	6-PA	60,000	37,000	0.62	C	-	-	-	N
	Britannia Blvd. to La Media Rd.	6-PA	60,000	42,500	0.71	C	-	-	-	N
	La Media Rd. to Harvest Rd.	6-PA	60,000	40,500	0.68	C	-	-	-	N
	Harvest Rd. to Otay Center Dr.	6-PA	60,000	34,000	0.57	B	-	-	-	N
	Otay Center Dr. to SR-905	6-PA	60,000	60,000	1.00	**E**	-	-	-	**Y**
	SR-905 to Paseo de las Americas	6-PA	60,000	63,000	1.05	**F**	-	-	-	**Y**
	Paseo de las Americas to Michael Faraday Dr.	4-M	40,000	23,000	0.58	C	-	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	4-M	40,000	21,000	0.53	B	-	-	-	N
	Enrico Fermi Dr. to SR-11*	4-M	40,000	17,500	0.44	B	-	-	-	N

TABLE 5.12-5
CPU HORIZON YEAR ROADWAY SEGMENT LEVEL OF SERVICE
(continued)

Street	Segment	Horizon Year					Horizon Year with CPU			
		Class[1]	LOS E ADT[2]	Segment ADT	V/C	LOS	New Class	New V/C	New LOS	Sig?
Palm Ave.	I-805 to Dennery Rd.	7-PA	65,000	59,500	0.92	D	-	-	-	N
Ocean View Hills Parkway	Dennery Rd. to Del Sol Blvd.	4-M	40,000	22,000	0.55	C	-	-	-	N
	Del Sol Blvd. to Street "A"	6-M	50,000	35,000	0.70	C	-	-	-	N
	Street "A" to Otay Mesa Rd.	6-M	50,000	23,500	0.42	B	-	-	-	N
Caliente Avenue	Otay Mesa Rd. to SR-905	6-M	50,000	38,000	0.76	C	6-PA	0.63	C	N
	SR-905 to Airway Rd.	6-M	50,000	32,000	0.64	C	6-PA	0.53	B	N
	Airway Rd. to Beyer Blvd.	4-M	40,000	46,000	1.15	**F**	6-M	0.92	**E**	**Y**
	Beyer Blvd. to Siempre Viva Rd.	4-M	40,000	41,000	1.03	**F**	-	-	-	**Y**
Beyer Boulevard	Alaquinas Dr. to Old Otay Mesa Rd. Old Otay	4-M	40,000	32,500	0.81	D	-	-	-	N
	Mesa Rd. to Caliente Ave.[3]	4-M	40,000	31,000	0.78	D	-	-	-	N
Heritage Road/ Otay Valley Road	Main St. to Avenida de Las Vistas**	6-PA	60,000	83,000	1.38	**F**	-	-	-	**Y**
	Avenida De Las Vistas to Datsun St.	6-M	50,000	75,500	1.51	**F**	6-PA	1.26	**F**	**Y**
	Datsun St. to Otay Mesa Rd.	6-M	50,000	48,000	0.96	**E**	6-PA	0.80	C	N
	Otay Mesa Rd. to SR-905	6-M	50,000	23,500	0.47	B	6-PA	0.39	A	N
	SR-905 to Airway Rd.	6-M	50,000	35,000	0.70	C	6-PA	0.58	B	N
Cactus Road	Otay Mesa Rd. to Airway Rd.	4-CL	30,000	40,500	1.35	**F**	4-M	1.01	**F**	**Y**
	Airway Rd. to Siempre Viva Rd.	4-CL	30,000	40,500	1.35	**F**	4-M	1.01	**F**	**Y**
	Siempre Viva Rd. to South End	2-CL	15,000	11,000	0.73	D	-	-	-	N
Britannia Boulevard	Otay Mesa Rd. to SR-905	4-M	40,000	17,500	0.44	B	6-PA	0.29	A	N
	SR-905 to Airway Rd.	4-M	40,000	63,000	1.58	**F**	6-PA	1.05	**F**	**Y**
	Airway Rd. to Siempre Viva Rd.	4-M	40,000	44,500	1.11	**F**	6-M	0.89	D	N
	Siempre Viva Rd. to South End	2-C	8,000	22,000	2.75	**F**	4-CL	0.73	D	N
La Media Road	Birch Rd. to Lone Star Rd.**	6-PA	60,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Lone Star Rd. to Aviator Rd.	6-PA	60,000	19,500	0.33	A	4-M	0.49	B	N
	Aviator Rd. to Otay Mesa Rd.	6-PA	60,000	22,500	0.38	A	4-M	0.56	C	N
	Otay Mesa Rd. to SR-905	6-PA	60,000	37,500	0.63	C	-	-	-	N
	SR-905 to Airway Rd.	6-PA	60,000	64,000	1.06	**F**	-	-	-	**Y**
	Airway Rd. to Siempre Viva Rd.	4-M	40,000	33,000	0.83	D	5-M	0.73	C	N
Harvest Road	South of Otay Mesa Rd.	4-M	40,000	8,500	0.21	A	2-CL	0.57	C	N
	Airway Rd. to Otay Center Dr.	4-M	40,000	16,000	0.40	B	4-CL	0.53	C	N
	Otay Center Dr. to Siempre Viva Rd.	4-M	40,000	10,000	0.25	A	4-CL	0.33	A	N
Enrico Fermi Drive	SR-11 to Airway Rd.*	4-M	40,000	15,500	0.62	B	-	-	-	N
	Airway Rd. to Siempre Viva Rd.	4-M	40,000	8,000	0.20	A	4-CL	0.27	A	N
	Siempre Viva Rd. to Via de la Amistad	4-M	40,000	10,500	0.26	A	4-CL	0.35	B	N

TABLE 5.12-5
CPU HORIZON YEAR ROADWAY SEGMENT LEVEL OF SERVICE
(continued)

Street	Segment	Horizon Year					Horizon Year with CPU			
		Class[1]	LOS E ADT[2]	Segment ADT	V/C	LOS	New Class	New V/C	New LOS	Sig?
Lone Star Road	SR-125 to Piper Ranch Rd.	4-M	40,000	35,000	0.88	D	6-PA	0.58	B	N
	Piper Ranch Rd. to City/County Boundary	4-M	40,000	36,000	0.90	**E**	6-PA	0.60	C	N
Aviator Road	Heritage Rd. to La Media Rd. [3]	2-C	8,000	23,000	2.88	F	4-CL	0.77	D	N
Dennery Road	Palm Ave. to Del Sol Blvd.	4-M	40,000	28,000	0.70	C	-	-	-	N
	Palm Ave. to Regatta Ln.	4-M	40,000	19,500	0.49	B	-	-	-	N
	Regatta Ln. to Red Coral Ln.	4-CL	30,000	12,500	0.42	B	-	-	-	N
	Red Coral Ln. to Black Coral Ln.	2-CL	15,000	12,500	0.83	D	-	-	-	N
	Black Coral Ln. to East End	2-CN	10,000	16,500	1.65	**F**	-	-	-	**Y**
Avenida De Las Vistas	Otay Valley Rd. to Vista Santo Domingo	2-CN	10,000	7,000	0.70	C	-	-	-	N
	Vis ta Santo Domingo to Dennery Rd.	2-CN	10,000	19,500	1.95	**F**	-	-	-	**Y**
Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	4-CL	30,000	19,500	0.65	C	-	-	-	N
	Surf Crest Dr. to Riviera Pointe	2-CN	10,000	23,000	2.30	**F**	-	-	-	**Y**
	Riviera Pointe to Dennery Rd.	2-CL	15,000	23,000	1.53	**F**	-	-	-	**Y**
	Dennery Rd. to I-805	4-CL	30,000	16,000	0.53	C	-	-	-	N
Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	4-M	40,000	13,500	0.34	A	-	-	-	N
Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	4-CL	30,000	22,000	0.73	D	-	-	-	N
	Airway Rd. to Crescent Bay Dr.	4-CL	30,000	14,500	0.48	C	-	-	-	N
	Crescent Bay Dr. to Beyer Blvd.	2-C	8,000	16,000	2.00	**F**	-	-	-	**Y**
Emerald Crest Dr.	Otay Mesa Rd. to South End [3]	4-CL	30,000	25,000	0.83	D	-	-	-	N
Corporate Center Drive	South End to Otay Mesa Rd. [3]	4-CL	30,000	17,500	0.58	C	-	-	-	N
	Otay Mesa Rd. to Progressive Ave.	4-CL	30,000	19,500	0.65	C	-	-	-	N
	Progressive Ave. to Innovative Dr.	2-C	8,000	8,000	1.00	**E**	2-CL	0.53	C	N
Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	4-CL	30,000	15,000	0.50	C	-	-	-	N
Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	4-CL	30,000	20,500	0.68	D	-	-	-	N
Sanyo Avenue	Otay Mesa Rd. to Airway Rd. [4]	4-C	15,000	24,500	1.63	**F**	4-CL	0.82	D	N
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas[4]	2-CL	15,000	12,000	0.80	D	-	-	-	N
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	2-C	8,000	16,500	2.06	**F**	4-CL	0.55	C	N
	Siempre Viva Rd. to Marconi Dr.	2-C	8,000	15,000	1.88	**F**	4-CL	0.50	C	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	2-C	8,000	8,000	1.00	**E**	2-CL	0.53	C	N
Otay Center Drive	Harvest Rd. to Siempre Viva Rd.[4]	4-C	15,000	15,500	1.03	**F**	4-CL	0.52	C	N
Michael Faraday Drive	Airway Rd. to Siempre Viva Rd. [4]	2-CL	15,000	6,500	0.43	B	-	-	-	N
	Siempre Viva Rd. to Marconi Dr. [4]	2-CL	15,000	8,000	0.53	C	-	-	-	N
St. Andrews Avenue	Otay Mesa Center Rd. to La Media Rd.	2-C	8,000	13,500	1.69	**F**	4-CL	0.45	C	N

TABLE 5.12-5
CPU HORIZON YEAR ROADWAY SEGMENT LEVEL OF SERVICE
(continued)

Street	Segment	Horizon Year					Horizon Year with CPU			Sig?
		Class[1]	LOS E ADT[2]	Segment ADT	V/C	LOS	New Class	New V/C	New LOS	
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	2-C	8,000	12,500	1.56	**F**	4-C	0.83	D	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	2-C	8,000	9,500	1.19	**F**	-	-	-	**Y**
	Pacific Rim Ct. to Cactus Rd.	2-C	8,000	7,500	0.94	**E**	-	-	-	**Y**
	Cactus Rd. to Continental St.	2-C	8,000	6,000	0.75	D	-	-	-	N
Pacific Rim Court	Otay Mesa Rd. to Camino Maquiladora	2-C	8,000	4,500	0.56	C	-	-	-	N
Progressive Avenue	Corporate Center Dr. to Innovative Dr.	2-C	8,000	11,500	1.44	**F**	-	-	-	**Y**
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	2-C	8,000	24,000	1.60	**F**	4-CL	0.80	D	N
Datsun Street	Innovative Dr. to Heritage Rd.[3]	2-C	8,000	30,000	3.75	**F**	4-CL	1.00	**E**	**Y**
Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave.[3]	2-CL	15,000	19,000	1.27	**F**	4-CL	0.63	B	N
Excellante Street	Airway Rd. to Gigantic St.	4-C	15,000	6,000	0.40	B	2-C	0.75	D	N
Gigantic Street	Excellante St. to Centurion St.	4-C	15,000	6,000	0.40	B	2-C	0.75	D	N
Centurion Street	Airway Rd. to Gigantic St.	4-C	15,000	6,000	0.40	B	2-C	0.75	D	N
Exposition Way/ Vista Santo Domingo	Avenida De Las Vistas to Corporate Dr.[4]	2-CN	10,000	12,500	1.25	**F**	-	-	-	**Y**
Continental Street	South of Otay Mesa Rd.	2-C	8,000	4,500	0.56	C	-	-	-	N
	North of Airway Rd.	2-CL	15,000	12,000	0.80	D	-	-	-	N

NOTE:
*Segment in County of San Diego
**Segment in City of Chula Vista
[1]Current Community Plan Classification, unless footnotes [3] or [4] apply.
[2]Source: City of San Diego Traffic Impact Study Manual, Table 2.
[3]Add to Circulation Plan.
[4]Functional classification shown, not currently classified.
Sig? = Significant impact, Yes (Y) or No (N).
New LOS = LOS after change in classification.
- = No reclassification is proposed by the CPU.
N/A = Not applicable, as this analysis assumes the segment of La Media Road between Birch Road and Lone Star Road is not completed since the City of Chula Vista has removed it from their facilities financing plan.

Legend

8-M	=	8-lane Major Arterial
7-PA	=	7-lane Primary Arterial
7-M	=	7-lane Major Arterial
6-PA	=	6-lane Primary Arterial
6-M	=	6-lane Major Arterial
5-M	=	5-lane Major Arterial (3SB /2NB)
4-P	=	4-lane Primary Arterial
4-M	=	4-lane Major Arterial
4-CL	=	4-lane Collector (with continuous left-turn lane)
4-C	=	4-lane Collector (without continuous left-turn lane)
2-CL	=	2-lane Collector (with continuous left-turn lane)
2-CN	=	2-lane Collector (no fronting property)
2-C	=	2-lane Collector (without continuous left-turn lane)

Intersections

With the specified proposed classifications the following intersections would be expected to operate at unacceptable levels of service in the Horizon Year Plus CPU condition (Table 5.12-6):

1. Palm Ave./I-805 NB Ramps (LOS F in the AM and PM peak hours)
2. Palm Ave./Dennery Rd. (LOS E in the PM peak hour)
3. Otay Mesa Rd./Caliente Ave. (LOS F in the AM and PM peak hours)
4. Caliente Ave./SR-905 WB Ramps (LOS F in the AM peak hour and LOS D with excessive queues blocking the intersection in the PM peak hour)
5. Caliente Ave./SR-905 EB Ramps (LOS F in the AM and PM peak hours)
6. Caliente Ave./Airway Rd. (LOS F in the AM and PM peak hours)
7. Caliente Ave./Beyer Blvd. (LOS F in the AM and PM peak hours)
8. Otay Mesa Rd./Heritage Rd. (LOS F in the AM and PM peak hours)
9. Heritage Rd./SR-905 WB Ramps (LOS E in the AM peak hour and LOS F in the PM peak hour)
10. Heritage Rd./SR-905 EB Ramps (LOS F in the AM and PM peak hours)
11. Heritage Rd./Airway Rd. (LOS F in the AM and PM peak hours)
12. Otay Mesa Rd./Cactus Rd. (LOS F in the AM and PM peak hours)
13. Airway Rd./Cactus Rd. (LOS F in the AM and PM peak hours)
14. Siempre Viva Rd./Cactus Rd. (LOS F in the PM peak hour)
15. Otay Mesa Rd./Britannia Blvd. (LOS F in the AM and PM peak hours)
16. Britannia Blvd./SR-905 WB Ramps (LOS F in the AM and PM peak hours)
17. Britannia Blvd./SR-905 EB Ramps (LOS F in the AM and PM peak hours)
18. Britannia Blvd./Airway Rd. (LOS F in the AM and PM peak hours)
19. Siempre Viva Rd./Britannia Blvd. (LOS F in the AM and PM peak hours)
20. Otay Mesa Rd./La Media Rd. (LOS F in the AM and PM peak hours)
21. La Media Rd./SR-905 WB Ramps (LOS F in the AM and PM peak hours)
22. La Media Rd./SR-905 EB Ramps (LOS F in the AM and PM peak hours)
23. La Media Rd./Airway Rd. (LOS F in the AM and PM peak hours)
24. La Media Rd./Siempre Viva Rd. (LOS F in the AM and PM peak hours)
25. Lone Star Rd./SR-125 SB Off Ramp (LOS E in the AM peak hour and LOS F in the PM peak hours)
26. Lone Star Rd./SR-125 NB On Ramp (LOS A with excessive queues blocking the intersection in the AM peak hour and LOS F in the PM peak hour)
27. Lone Star Rd./Piper Ranch Rd. (LOS A with excessive queues blocking the intersection in the PM peak hour)
28. Otay Mesa Rd./Piper Ranch Rd. (LOS F in the AM and PM peak hours)
29. Otay Mesa Rd./SR-125 SB Off Ramp (LOS F in the AM peak hour and LOS B with excessive queues blocking the intersection in the PM peak hour)
30. Otay Mesa Rd./Harvest Rd. (LOS F in the PM peak hour)
31. Siempre Viva Rd./Otay Center Dr. (LOS F in the AM and PM peak hours)

32. Siempre Viva Rd./SR-905 SB to EB Ramp (LOS C with excessive queues blocking the intersection in the AM peak hour and LOS F in the PM peak hour)
33. Siempre Viva Rd./SR-905 SB to WB Ramp (LOS F in the AM and PM peak hours)
34. Siempre Viva Rd./SR-905 NB Ramps (LOS D with excessive queues blocking the intersection in the AM peak hour and LOS F in the PM peak hour)
35. Siempre Viva Rd./Paseo de las Americas (LOS F in the AM and PM peak hours)
36. Ocean View Hills Pkwy./Del Sol Blvd. (LOS E in the AM and PM peak hours)
37. Ocean View Hills Pkwy./Street A (LOS E in the PM peak hour)
38. Old Otay Mesa Rd./Beyer Blvd. (LOS F in the AM and PM peak hours)
39. Otay Mesa Rd./Corporate Center Dr. (LOS F in the AM and PM peak hours)
40. Otay Mesa Rd./Innovative Dr. (LOS F in the AM and PM peak hours)
41. Harvest Rd./Airway Rd. (LOS F in the AM peak hour)
42. Harvest Rd./Siempre Viva Rd. (LOS E in the AM and PM peak hours)
43. Otay Mesa Rd./Sanyo Ave. (LOS F in the AM and PM peak hours)
44. Airway Rd./Sanyo Ave. (LOS F in the AM and PM peak hours)
45. Paseo de las Americas/Heinrich Hertz Dr. (LOS F in the AM and PM peak hours)
46. Paseo de las Americas/Marconi Dr. (LOS F in the AM and PM peak hours)
47. Heritage Rd./Otay Valley Rd. (LOS F in the AM and PM peak hours)
48. Aviator Rd./La Media Rd. (LOS F in the AM peak hour)
49. Otay Valley Rd./Avenida de las Vistas (LOS F in the AM and PM peak hours)

The CPU impacts at these 49 intersections would be significant.

Freeway Segments

Under the Horizon Year Plus CPU conditions, the following five segments of SR-905 would be expected to operate at unacceptable levels (Table 5.12-7):

1. SR-905, between Picador Boulevard and I-805 (LOS F0)
2. SR-905, between I-805 and Caliente Avenue (LOS F2)
3. SR-905, between Caliente Avenue and Heritage Drive (LOS F3)
4. SR-905, between Heritage Drive and Britannia Boulevard (LOS F1)
5. SR-905, between Britannia Boulevard and La Media Road (LOS F0)

While the SR-905 has been planned to allow future HOV lanes, such a project has not been funded and, therefore, is not included in the analysis. The CPU impacts to these five SR-905 segments would be significant.

TABLE 5.12-6
CPU HORIZON YEAR INTERSECTION LEVELS OF SERVICE

		Horizon Year Plus CPU					Horizon Year Plus CPU With Mitigation				
		AM Peak Hour		PM Peak Hour			AM Peak Hour		PM Peak Hour		Significant After
	Intersection	CD	LOS	CD	LOS	Mitigation	CD	LOS	CD	LOS	Mitigation?
1	Palm Ave./I-805 SB Ramps	48.9	D	51.3	D	Revise SB-LTR to LT; +1 SB-R*	24.8	C	35.7	D	-
2	Palm Ave./I-805 NB Ramps	116.1	**F**	122.6	**F**	+1 dedicated NB-L; +1EB-T; +1EB-R; +1WB-T; +1WB-R	4.6	A	5.5	A	No
3	Palm Ave./Dennery Rd.	33.5	C	67.2	**E**	-	-	-	-	-	**Yes**
4	Otay Mesa Rd./Caliente Ave.	263.5	**F**	146.0	**F**	+1 dedicated NB-R	205.9	**F**	87.2	**F**	**Yes**
5	Caliente Ave./SR-905 WB Ramps	83.1	**F**	43.2	**D**[1]	+1 NB-L; +1 dedicated SB-R	34.0	**C**[1]	34.0	**C**[1]	**Yes**
6	Caliente Ave./SR-905 EB Ramps	165.7	**F**	150.5	**F**	+1 dedicated NB-R; +1SB-L; +1 dedicated EB-R	55.0	**E**	70.2	**E**	**Yes**
7	Caliente Ave./Airway Rd.	228.5	**F**	223.0	**F**	+1 dedicated NB-L; +1 dedicated EB-R	143.0	**F**	200.5	**F**	**Yes**
8	Caliente Ave./Beyer Blvd.	252.0	**F**	429.8	**F**	+2 dedicated SB-R; +1 dedicated EB-R	212.7	**F**	122.4	**F**	**Yes**
9	Otay Mesa Rd./Heritage Rd.	367.5	**F**	257.4	**F**	+1 dedicated NB-R; +1 dedicated SB-R; +1WB-R	272.0	**F**	161.2	**F**	**Yes**
10	Heritage Rd./SR-905 WB Ramps	69.9	**E**	81.1	**F**	+2 dedicated NB-R	15.9	**B**[1]	28.4	**C**[1]	**Yes**
11	Heritage Rd./SR-905 EB Ramps	113.0	**F**	86.4	**F**	+1 dedicated NB-L; +1 dedicated WB-R	39.5	**D**[1]	25.5	**C**[1]	**Yes**
12	Heritage Rd./Airway Rd.	162.7	**F**	402.8	**F**	+2 dedicated WB-R	144.5	**F**	88.3	**F**	**Yes**
13	Heritage Rd./Siempre Viva Rd.	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	N/A	-
14	Otay Mesa Rd./Cactus Rd.	437.9	**F**	290.5	**F**	+2 dedicated EB-R; +1 dedicated WB-R	139.6	**F**	199.7	**F**	**Yes**
15	Airway Rd./Cactus Rd.	361.5	**F**	437.7	**F**	+1 dedicated NB-R; +1 dedicated SB-R; +1 dedicated EB-R; +2 dedicated WB-R	188.6	**F**	306.2	**F**	**Yes**
16	Siempre Viva Rd./Cactus Rd.	48.7	**D**	127.7	**F**	+1 dedicated NB-R	47.6	D	117.3	**F**	**Yes**
17	Otay Mesa Rd./Britannia Blvd.	108.5	**F**	117.2	**F**	+1 dedicated EB-R; +1 dedicated WB-R	63.1	**E**	47.5	D	**Yes**
18	Britannia Blvd./SR-905 WB Ramps	240.5	**F**	577.4	**F**	Restripe 3rd SB-T to SB-TR; +1 dedicated SB-R; Restripe WB-T to LTR	65.0	**E**	547.1	**F**	**Yes**
19	Britannia Blvd./SR-905 EB Ramps	353.3	**F**	235.1	**F**	+2 dedicated NB-R	305.9	**F**	67.1	**E**	**Yes**
20	Britannia Blvd./Airway Rd.	618.2	**F**	615.8	**F**	+1 dedicated NB-R; +2 dedicated SB-R; +1 dedicated EB-R; +2 dedicated WB-R	184.9	**F**	241.1	**F**	**Yes**
21	Siempre Viva Rd./Britannia Blvd.	363.3	**F**	362.8	**F**	+1 dedicated NB-R; +2 dedicated SB-R; +1 dedicated EB-R; +2 dedicated WB-R	177.5	**F**	143.2	**F**	**Yes**

TABLE 5.12-6
CPU HORIZON YEAR INTERSECTION LEVELS OF SERVICE
(continued)

	Intersection	Horizon Year Plus CPU				Mitigation	Horizon Year Plus CPU With Mitigation				Significant After Mitigation?
		AM Peak Hour		PM Peak Hour			AM Peak Hour		PM Peak Hour		
		CD	LOS	CD	LOS		CD	LOS	CD	LOS	
22	Otay Mesa Rd./La Media Rd.	457.1	**F**	443.8	**F**	+2 dedicated NB-R; +2 dedicated SB-R; +2 dedicated EB-R; +2 dedicated WB-R	131.9	**F**	126.2	**F**	**Yes**
23	La Media Rd./SR-905 WB Ramps	266.1	**F**	227.2	**F**	+1 NB-T; +1 dedicated SB-L	129.8	**F**	112.7	**F**	**Yes**
24	La Media Rd./SR-905 EB Ramps	234.7	**F**	84.7	**F**	+1 SB-T	162.2	**F**	48.5	**D**[1]	**Yes**
25	La Media Rd./Airway Rd.	496.6	**F**	507.9	**F**	+1 dedicated NB-R; +2 dedicated SB-R; +1 dedicated EB-R; +2 dedicated WB-R	182.5	**F**	212.5	**F**	**Yes**
26	La Media Rd./Siempre Viva Rd.	244.0	**F**	112.1	**F**	Restripe SB to 1T and 2SB-R; +2 dedicated WB-R	81.6	**F**	37.1	D	**Yes**
27	La Media Rd./Lone Star Rd.	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	N/A	**-**
28	Lone Star Rd./SR-125 SB Off Ramp	63.6	**E**	96.8	**F**	-	-	-	-	-	**Yes**
29	Lone Star Rd./SR-125 NB On Ramp	2.1	A[1]	147.8	**F**	-	-	-	-	-	**Yes**
30	Lone Star Rd./Piper Ranch Rd.	8.1	A	9.3	**A**[1]	-	-	-	-	-	**Yes**
31	Otay Mesa Rd./Piper Ranch Rd.	129.2	**F**	166.2	**F**	+1 dedicated NB-R; +2 dedicated SB-R; +1 dedicated EB-R; +1 dedicated WB-R	44.6	D	47.5	D	No
32	Otay Mesa Rd./SR-125 SB Off Ramp	82.9	**F**	13.0	**B**[1]	Restripe SB to SB-L, SB-T/L, SB-R	30.4	C	11.0	**B**[1]	**Yes**
33	Otay Mesa Rd./SR-125 NB On Ramp	4.8	A	22.0	C	-	-	-	-	-	**-**
34	Otay Mesa Rd./Harvest Rd.	37.9	D	133.7	**F**	+1 NB-L; +1 dedicated EB-R	11.8	B	38.9	**D**[1]	**Yes**
35	Siempre Viva Rd./Otay Center Dr.	276.0	**F**	213.0	**F**	+1 dedicated NB-R; +1 SB-L; +1 dedicated SB-R; +1 EB-L; +1 dedicated EB-R; +1 WB-L; +1 dedicated WB-R	83.0	**F**	85.4	**F**	**Yes**
36	Siempre Viva Rd./SR-905 SB to EB Ramp	29.0	**C**[1]	146.2	**F**	-	-	-	-	-	**Yes**
36A	Siempre Viva Rd./SR-905 SB to WB Ramp	2,641[2]	**F**[1]	205.7[2]	**F**	Signalize; +1 SB-R	382.0	**F**	16.3	**B**[1]	**Yes**
37	Siempre Viva Rd./SR-905 NB Ramps	47.2	**D**[1]	262.7	**F**	+1 WB-R	39.3	**D**[1]	250.4	**F**	**Yes**
38	Siempre Viva Rd./Paseo de las Americas	188.8	**F**	367.1	**F**	NB restriped to L, LT, R; SB restriped to L, T, 2R; +1 dedicated WB-R	78.8	**E**	159.5	**F**	**Yes**
39	Dennery Rd./Del Sol Blvd.	49.3	D	49.4	D	-	-	-	-	-	**-**

TABLE 5.12-6
CPU HORIZON YEAR INTERSECTION LEVELS OF SERVICE
(continued)

		Horizon Year Plus CPU					Horizon Year Plus CPU With Mitigation				
		AM Peak Hour		PM Peak Hour			AM Peak Hour		PM Peak Hour		Significant After Mitigation?
	Intersection	CD	LOS	CD	LOS	Mitigation	CD	LOS	CD	LOS	
40	Ocean View Hills Pkwy./Del Sol Blvd.	67.8	**E**	67.3	**E**	+1 dedicated SB-R; restripe EB to L-LT-R	50.5	D	53.3	D	**Yes**
41	Ocean View Hills Pkwy./Street A	48.2	D	57.9	**E**	+1 NB-L; +1 dedicated EB-R	35.5	D	34.6	C	**Yes**
42	Old Otay Mesa Rd./Beyer Blvd.	381.2	**F**	396.5	**F**	+1 dedicated NB-R; +1 dedicated SB-R	194.3	**F**	181.8	**F**	**Yes**
43	Otay Mesa Rd./Corporate Center Dr.	119.3	**F**	184.3	**F**	Restripe SB to 2L-TRF-R; +1 dedicated EB-R	78.6	**E**	140.6	**F**	**Yes**
44	Otay Mesa Rd./Innovative Dr.	114.4	**F**	108.9	**F**	Restripe SB to 2L-TRF-R	113.7	**F**	89.8	**F**	**Yes**
45	Harvest Rd./Airway Rd.	116.7	**F**	13.8	B	+1 dedicated EB-R	42.5	D	13.5	B	**Yes**
46	Harvest Rd./Siempre Viva Rd.	76.6	**E**	69.2	**E**	+1 SB-L; +1 dedicated SB-R; +1 dedicated WB-R	28.7	C	51.5	D	**Yes**
47	Otay Mesa Rd./Sanyo Ave.	263.3	**F**	276.6	**F**	+1 NB-L; +1 dedicated NB-R; +2 dedicated EB-R; +1 dedicated WB-R	106.7	**F**	89.0	**F**	**Yes**
48	Airway Rd./Sanyo Ave.	225.6	**F**	229.8	**F**	+1 NB-L; +1 dedicated NB-R; +1 SB-L; +2 dedicated SB-R; +2 dedicated EB-R; +1 dedicated WB-R	49.7	D	38.6	D	No
49	Paseo de las Americas/Heinrich Hertz Dr.	988.3[3]	**F**	244.6[3]	**F**	Signalize; +1 NB-L	8.9	A	13.0	B	No
50	Paseo de las Americas/Marconi Dr.	869.6[4]	**F**	108.0[4]	**F**	Signalize; +1 SB-L	11.5	B	13.4	B	No
51	Heritage Rd./Otay Valley Rd.	516.4	**F**	837.9	**F**	+1 dedicated NB-R; +2 dedicated SB-R; +1 EB-L; +1 dedicated EB-R; +1 WB-L; +1 dedicated WB-R	178.7	**F**	382.7	**F**	**Yes**

TABLE 5.12-6
CPU HORIZON YEAR INTERSECTION LEVELS OF SERVICE
(continued)

	Intersection	Horizon Year Plus CPU				Mitigation	Horizon Year Plus CPU With Mitigation				Significant After Mitigation?
		AM Peak Hour		PM Peak Hour			AM Peak Hour		PM Peak Hour		
		CD	LOS	CD	LOS		CD	LOS	CD	LOS	
52	Aviator Rd./La Media Rd.	105.1	**F**	38.0	D	+1 dedicated SB-R	27.7	C	18.3	B	No
53	Otay Valley Rd./Avenida de las Vistas	764.4	**F**	298.6	**F**	-	-	-	-	-	**Yes**

SOURCE: Appendix J (Urban Systems Associates, Inc. 2012).
NOTE: Control delay results should be considered unreliable at delay volumes higher than two times the LOS E delay of 80.0 seconds.
*This is a suggested improvement and is not mitigation for a CPU impact.
[1]Vehicles queues may extend through this intersection from a downstream intersection, resulting in degraded LOS from vehicles blocking this intersection.
[2]Unsignalized: SB to WB right turn at LOS F (AM and PM peak hours)
[3]Unsignalized: eastbound left turn at LOS F (AM Peak Hour); eastbound left and right turns at LOS F (PM Peak Hour).
[4]Unsignalized: westbound left turn at LOS F (AM and PM Peak Hours); westbound right turn at LOS F (PM Peak Hour).
Bold indicates a significant impact.

Legend
CD = Control Delay
LOS = Level of Service
SB=Southbound
NB=Northbound
EB=Eastbound
WB=Westbound
L = left turn lane
T = through lane
R = right turn lane
S = shared lane
Dedicated= change from a shared lane to an exclusive dedicated lane

TABLE 5.12-7
CPU HORIZON YEAR FREEWAY SEGMENT LEVELS OF SERVICE

Segment		Lanes (1-Way)	Capacity	Horizon Year ADT	Peak Volume	V/C	LOS	Mitigation (with HOV lane)[1] V/C	Mitigation (with HOV lane)[1] LOS
SR-905	Picador Blvd. to I-805	2 + AUX	6,500	128,500	6,853	1.05	**F0**	0.83	D
	I-805 to Caliente Ave.	3 + CL	8,550	221,000	11,787	1.38	**F2**	1.13	**F0**
	Caliente Ave. to Heritage Rd.	3	7,050	196,000	10,453	1.48	**F3**	1.18	**F0**
	Heritage Rd. to Britannia Blvd.	3	7,050	173,000	9,227	1.31	**F1**	1.04	**F0**
	Britannia Blvd. to La Media Rd.	3	7,050	154,000	8,213	1.16	**F0**	0.92	D
	La Media Rd. to SR-125	3	7,050	103,500	5,520	0.78	C	-	-
	SR-125 to Siempre Viva Rd.	3	7,050	99,000	5,280	0.75	C	-	-
	Siempre Viva Rd. to Border	3	7,050	64,500	3,440	0.49	B	-	-
I-805	Main St. to Palm Ave.	4+AUX+2HOV	14,400	248,000	13,227	0.92	D	-	-
	Palm Ave. to SR-905	4+AUX+2HOV	14,400	222,000	11,840	0.82	D	-	-
	SR-905 to I-5	4	9,400	122,000	6,507	0.69	C	-	-
	I-5 to Border	6	14,100	135,500	7,227	0.51	B	-	-
SR-125	Birch Rd. to Lone Star Rd.	4 (Toll)	9,400	155,500	8,293	0.88	D	-	-
	Lone Star Rd. to SR-905	4 (Toll)	9,400	115,500	6,160	0.66	C	-	-
SR–11	SR-905 to Enrico Fermi Dr.	2	4,700	47,000	2,507	0.53	B	-	-
	Enrico Fermi Dr. to Siempre Viva Rd	2	4,700	24,500	1,307	0.28	A	-	-
	Siempre Viva Rd. to Border	2	4,700	39,500	2,107	0.45	B	-	-

SOURCE: Appendix J (Urban Systems Associates, Inc. 2012)
[1]SR-905 would include one HOV lane in each direction. Note that the addition of 1 HOV lane in each direction to SR-905 is not in the RTP and is not funded. The addition of 2 HOV lanes to I-805 is in the RTP and is funded, and is included in the Horizon Year baseline conditions.

ADT = average daily traffic
V/C = volume-to-capacity ratio
LOS = Level of service
Bold indicates a significant impact.

Freeway Ramp Metering

As shown in Table 5.12-8, 11 of the freeway ramp metering locations would be expected to experience delays in excess of 15 minutes in the Horizon Year Plus CPU condition. Out of these locations, the following five ramp meter locations would also experience a downstream freeway operation of unacceptable LOS E or F in the Horizon Year Plus CPU condition:

1. SR-905/Caliente Avenue WB on-ramp (AM and PM peak hours)
2. SR-905/Heritage Road WB on-ramp (PM peak hour)
3. SR-905/Britannia Boulevard WB on-ramp (AM and PM peak hours)
4. SR-905/Britannia Boulevard EB on-ramp (PM peak hour)
5. SR-905/La Media Road WB on-ramp (AM and PM peak hours)

The CPU impacts at these five ramp meter locations would be significant.

5.12.3.2 Significance of Impacts

a. Roadway Segments

A total of 24 roadway segments under the Horizon Year Plus CPU condition would be expected to operate at unacceptable LOS. Therefore, the CPU would have a significant impact at all of these 24 roadway segment locations.

b. Intersections

A total of 49 intersections would be expected to operate at unacceptable levels under the Horizon Year Plus CPU condition. Therefore, the CPU would have a significant impact at all 49 of these intersections.

c. Freeway Segments

With the planned and funded I-805 improvements, all I-805 freeway segments would be expected to operate at an acceptable LOS in the Horizon Year Plus CPU condition and therefore impacts would be less than significant. Five SR-905 freeway segments would be expected to operate at unacceptable levels in the Horizon Year Plus CPU condition. Thus, the CPU impact at these five SR-905 freeway segments would be significant.

d. Freeway Ramp Metering

Five SR-905 freeway ramps would be expected to experience delays over 15 minutes with downstream freeway operations at unacceptable levels in the Horizon Year Plus CPU condition. The CPU impact at these five freeway ramps would be significant.

TABLE 5.12-8
CPU HORIZON YEAR RAMP METER OPERATIONS

Peak Hour	Location	Demand[1] (Veh/Hr)	Meter Rate[2] (Veh/Hr)	Excess Demand	Queue (Feet)	Delay[3] (Min)	Exceeds 15-Minute Delay?	Significant? (Exceeds 15 minutes and downstream freeway is LOS E or F)
AM	I-805/Palm Avenue NB (from WB)	1,280	960	320	8,000	20.0	Yes	No[4]
PM	I-805/Palm Avenue NB (from WB)	1,380	960	420	10,500	26.3	Yes	No[4]
AM	I-805/Palm Avenue NB (from EB)	655	960	None	None	None	No	No
PM	I-805/Palm Avenue NB (from EB)	540	960	None	None	None	No	No
AM	I-805/Palm Avenue SB	455	960	None	None	None	No	No
PM	I-805/Palm Avenue SB	645	960	None	None	None	No	No
AM	SR-905/Caliente Avenue WB	1,860	960	900	22,500	56.3	Yes	**Yes**
PM	SR-905/Caliente Avenue WB	1,550	960	590	14,750	36.9	Yes	**Yes**
AM	SR-905/Caliente Avenue EB	400	960	None	None	None	No	No
PM	SR-905/Caliente Avenue EB	400	960	None	None	None	No	No
AM	SR-905/Heritage Road WB	1,135	960	175	4,375	10.9	Yes	No
PM	SR-905/Heritage Road WB	2,550	960	1,590	39,750	99.4	Yes	**Yes**
AM	SR-905/Heritage Road EB	360	960	None	None	None	No	No
PM	SR-905/Heritage Road EB	800	960	None	None	None	No	No
AM	SR-905/Britannia Blvd. WB	1,350	960	390	9,750	24.4	Yes	**Yes**
PM	SR-905/Britannia Blvd. WB	3,355	960	2,395	59,875	149.1	Yes	**Yes**
AM	SR-905/Britannia Blvd. EB	710	960	None	None	None	No	No
PM	SR-905/Britannia Blvd. EB	1,400	960	440	11,000	27.5	Yes	**Yes**
AM	SR-905/La Media Road WB	2,050	960	1,090	27,250	68.1	Yes	**Yes**
PM	SR-905/La Media Road WB	3,025	960	2,065	51,625	129.0	Yes	**Yes**
AM	SR-905/La Media Road EB	1,000	960	40	1,000	2.5	No	No
PM	SR-905/La Media Road EB	1,950	960	990	24,750	61.8	Yes	No[4]
AM	SR-905/Siempre Viva Rd. NB	1,185	960	225	5,625	14.1	No	No
PM	SR-905/Siempre Viva Rd. NB	3,510	960	2,550	63,750	159.4	Yes	No[4]
AM	SR-905/Siempre Viva Rd. SB	750	960	None	None	None	No	No
PM	SR-905/Siempre Viva Rd. SB	1,670	960	710	17,750	44.4	Yes	No[4]
AM	SR-125/Otay Mesa Rd. NB	1,680	960	720	24,000	45.0	Yes	No[4]
PM	SR-125/Otay Mesa Rd. NB	2,455	960	1,495	37,375	93.4	Yes	No[4]
AM	SR-125/Lone Star Rd. NB	850	960	None	None	None	No	No
PM	SR-125/Lone Star Rd. NB	3,615	960	2,655	66,375	166.0	Yes	No[4]

SOURCE: Appendix J (Urban Systems Associates, Inc. 2012).
Bold indicates a significant impact.
[1]Total hourly volume entering from both directions.
[2]Most restrictive meter rate used, per Caltrans. This Veh/Hr assumes 2 lanes and 2 cars per green light on a 15-second cycle.
[3]$Delay = \frac{Excess\ Demand\ (vehicles)}{Meter\ Rate\ (vehicles\ per\ hour)}\ x\ 60\ min.per\ hour$
[4]While the delay exceeds 15 minutes, the downstream freeway operates at acceptable LOS. Thus, this impact is considered less than significant.

5.12.3.3 Mitigation Framework

At the program-level, impacts shall be reduced through the proposed classifications of roadways and identification of necessary roadway, intersection and freeway improvements. Mitigation or construction of these improvements shall be carried out at the project-level by future projects. Funding shall be through construction by individual development projects, fair share contributions to be determined at the project-level, and potentially other sources.

a. Roadway Segments

Even with the proposed classifications, 24 roadway segments would operate unacceptably in the Horizon Year Plus CPU condition. The TIA identified additional potential improvement measures that are not recommended as part of the CPU and are not included as part of the project. The reasons for not recommending the improvements are detailed in the Findings and the Statement of Overriding Considerations. The impacts are considered significant and unavoidable. At the project-level, partial mitigation may be possible in the form of transportation demand management measures that encourage carpooling and other alternate means of transportation. At the time future discretionary development projects are proposed, project-specific traffic analyses would contain detailed recommendations. All project-specific mitigation for direct impacts shall be implemented prior to the issuance of Certificate of Occupancy in order to provide mitigation at the time of impact.

The 24 roadway segments that would operate unacceptably in the Horizon Year plus CPU Condition are listed below.

1. Otay Mesa Road, Caliente Ave. to Corporate Center Dr.
2. Otay Mesa Road, Heritage Rd. to Cactus Rd.
3. Airway Road, Caliente Ave. to Heritage Rd.
4. Airway Road, Heritage Rd. to Cactus Rd.
5. Siempre Viva Road, Otay Center Dr. to SR-905
6. Siempre Viva Road, SR-905 to Paseo de las Americas
7. Caliente Avenue, Airway Rd. to Beyer Blvd.
8. Caliente Avenue, Beyer Blvd. to Siempre Viva Rd.
9. Heritage Road/Otay Valley Road, Main St. to Avenida de Las Vistas
10. Heritage Road/Otay Valley Road, Avenida de las Vistas to Datsun St.
11. Cactus Road, Otay Mesa Rd. to Airway Rd.
12. Cactus Road, Airway Rd. to Siempre Viva Rd.
13. Britannia Boulevard, SR-905 to Airway Rd.
14. La Media Road, SR-905 to Airway Rd.
15. Dennery Road, Black Coral Ln. to East End
16. Avenida de las Vistas, Vista Santo Domingo to Dennery Rd.
17. Del Sol Boulevard, Surf Crest Dr. to Riviera Pointe

18. Del Sol Boulevard, Riviera Pointe to Dennery Rd.
19. Old Otay Mesa Road, Crescent Bay Dr. to Beyer Blvd.
20. Camino Maquiladora, Heritage Rd. to Pacific Rim Ct.
21. Camino Maquiladora, Pacific Rim Ct. to Cactus Rd.
22. Progressive Avenue, Corporate Center Dr. to Innovative Dr.
23. Datsun Street, Innovative Dr. to Heritage Rd.
24. Exposition Way/Vista Santo Domingo, Avenida de las Vistas to Corporate Center Dr.

b. Intersections

A total of 49 intersections would be significantly impacted by the CPU. With mitigation measures, a total of 39 intersections would continue to be significantly impacted. The TIA identified further potential improvement measures such as additional intersection turning movement lanes that are not recommended as part of the CPU and are not included as part of the project. The reasons for not recommending the improvements are detailed in the Findings and Statement of Overriding Considerations. At the project-level, partial mitigation may be possible in the form of transportation demand management measures that encourage carpooling and other alternate means of transportation. At the time future discretionary development projects are proposed, project-specific traffic analyses would contain detailed recommendations. All project-specific mitigation for direct impacts shall be implemented prior to the issuance of Certificate of Occupancy in order to provide mitigation at the time of impact.

The impacts are considered significant and unavoidable. To reduce impacts the following mitigation shall be provided:

TRF-1: Intersections shall be improved per the intersection lane designations identified in Figure 5.12-4.

c. Freeway Segments

While providing one HOV lane in each direction on the SR-905 would reduce impacts associated with buildout of the CPU, the additional lanes are not funded; therefore, impacts would remain significant and unavoidable at the programmatic level. At the project-level, partial mitigation may be possible in the form of transportation demand management measures that encourage carpooling and other alternate means of transportation. At the time future discretionary development projects are proposed, project-specific traffic analyses would contain detailed recommendations. All project-specific mitigation for direct impacts shall be implemented prior to the issuance of Certificate of Occupancy in order to provide mitigation at the time of impact.

Map Source: Urban Systems Associates, Inc. 2012

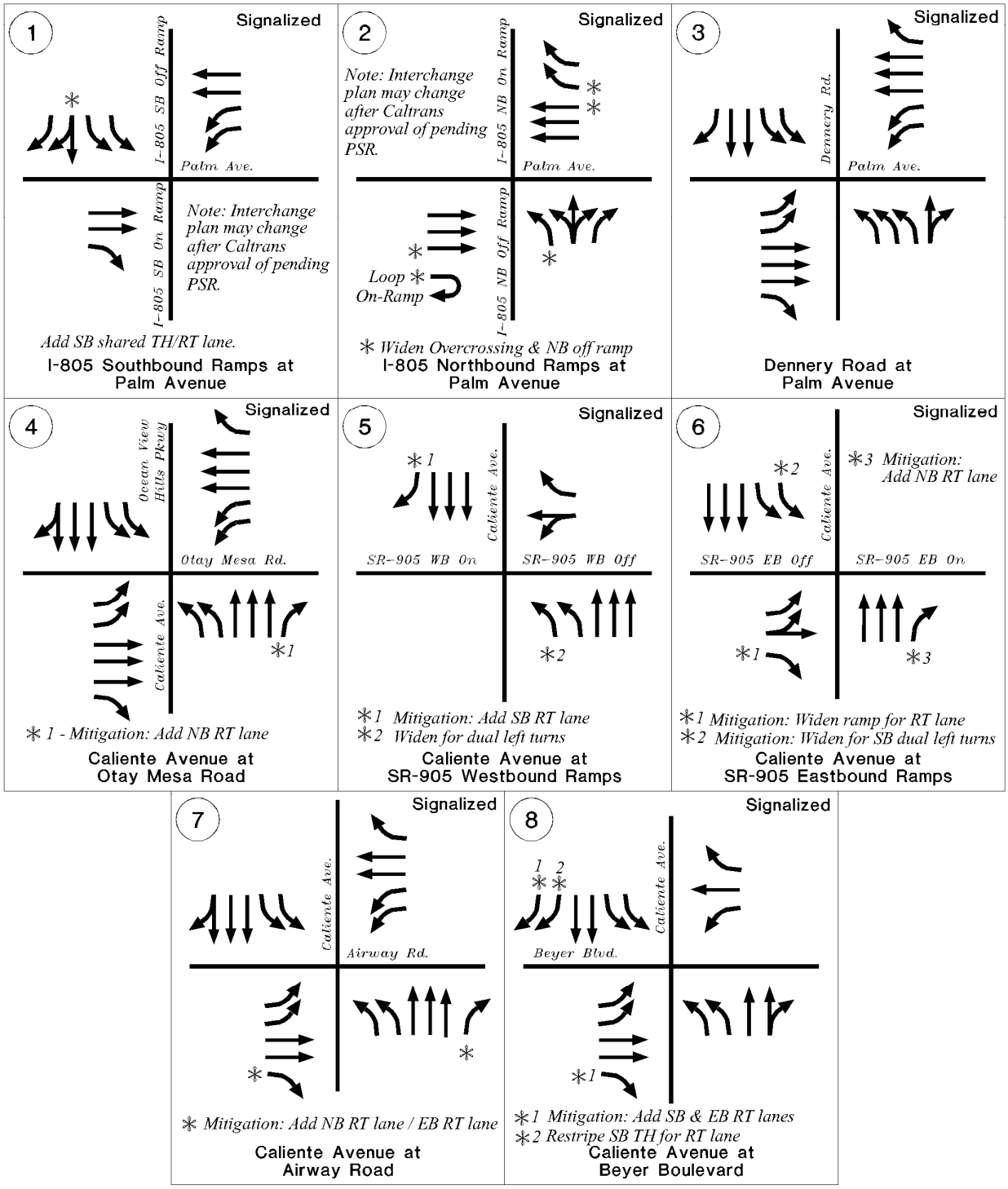


FIGURE 5.12-4a

Buildout Recommended Lane Configurations 1-8

M:\JOBS2\3957-1\env\graphics\fig5.12-4a.ai 09/06/13

Map Source: Urban Systems Associates, Inc. 2012

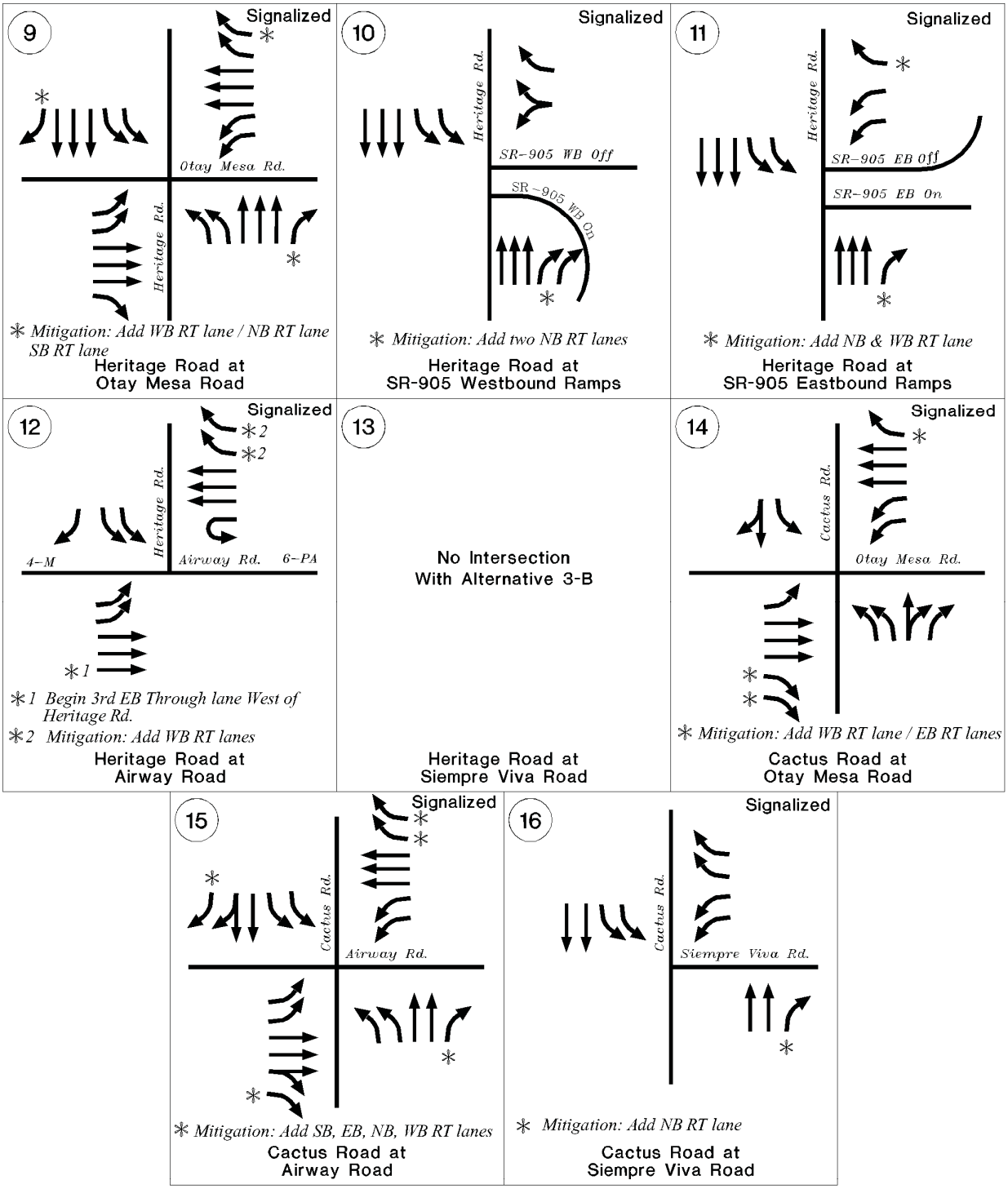


FIGURE 5.12-4b

Buildout Recommended Lane Configurations 9-16

Map Source: Urban Systems Associates, Inc. 2012

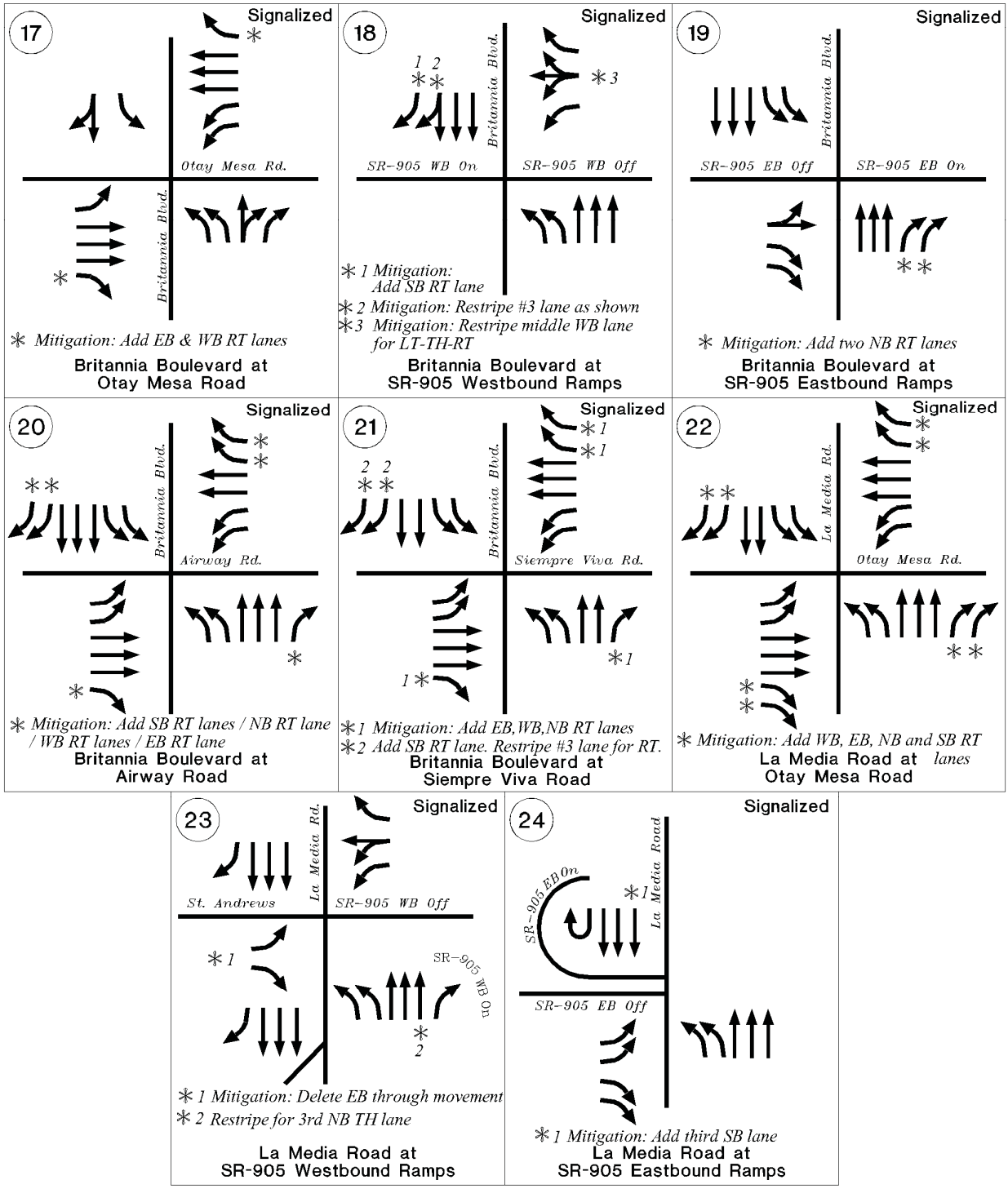


FIGURE 5.12-4c

Buildout Recommended Lane Configurations 17-24

Map Source: Urban Systems Associates, Inc. 2012

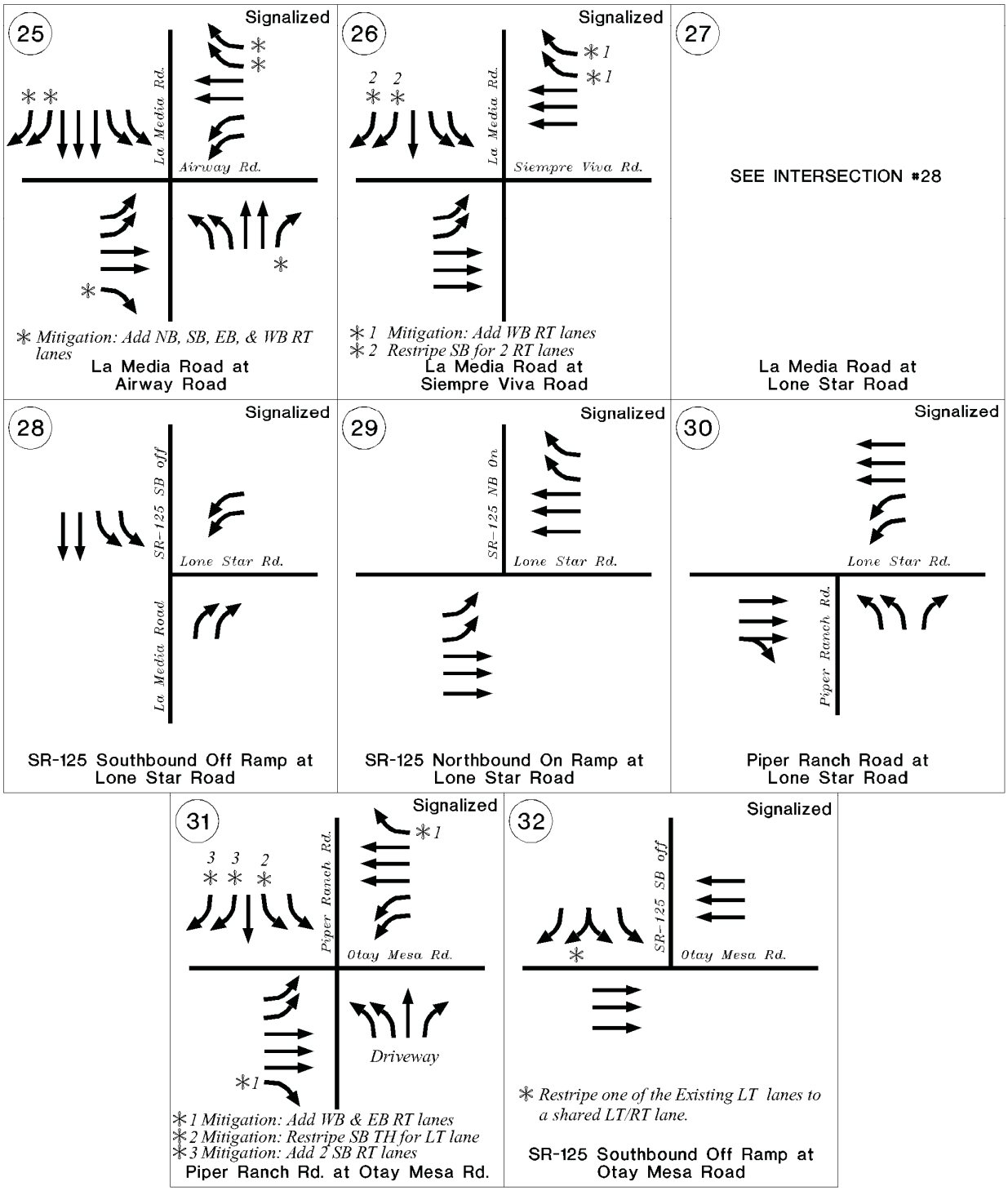


FIGURE 5.12-4d

Buildout Recommended Lane Configurations 25-32

Map Source: Urban Systems Associates, Inc. 2012

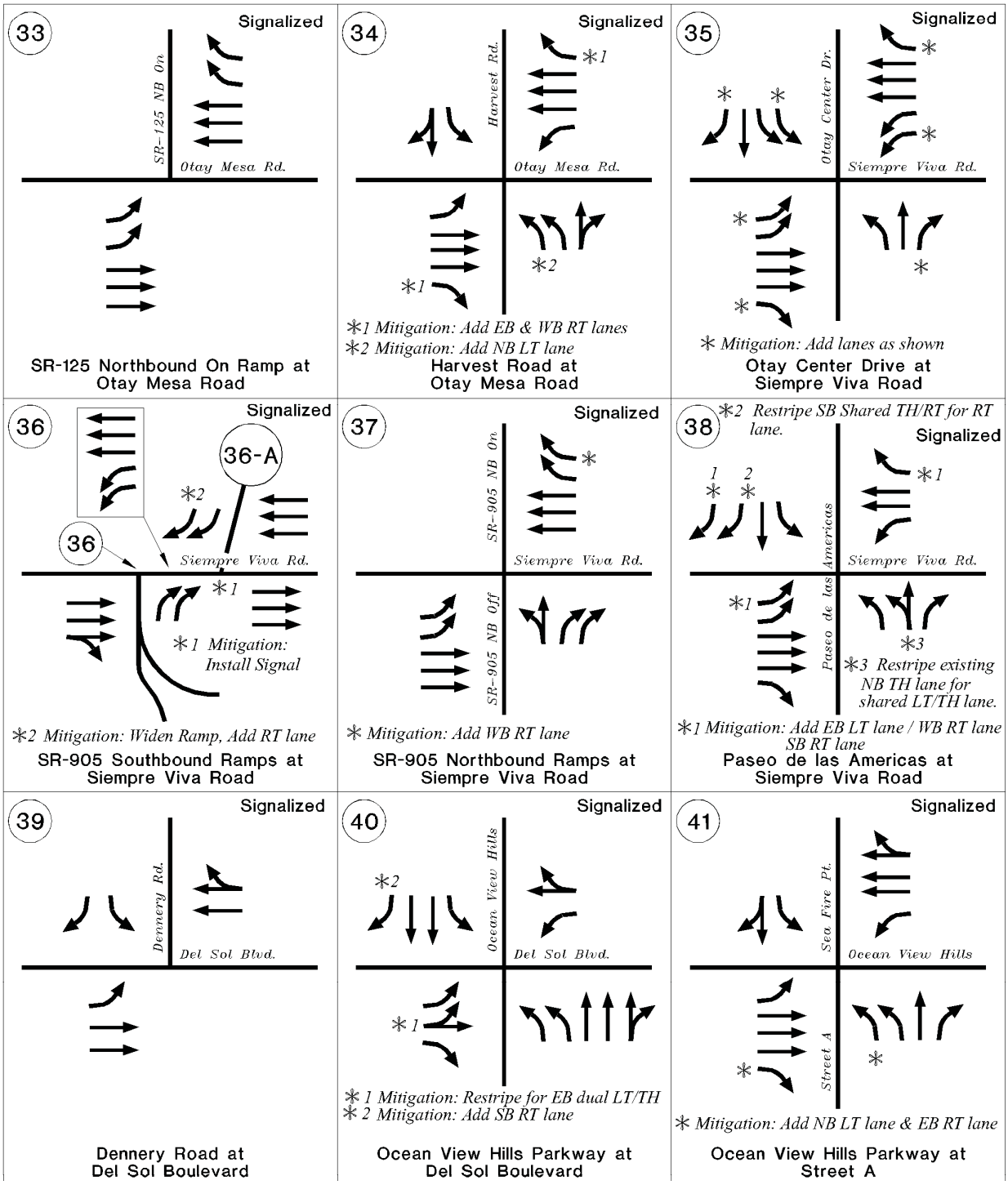


FIGURE 5.12-4e

Buildout Recommended Lane Configurations 33-41

Map Source: Urban Systems Associates, Inc. 2012

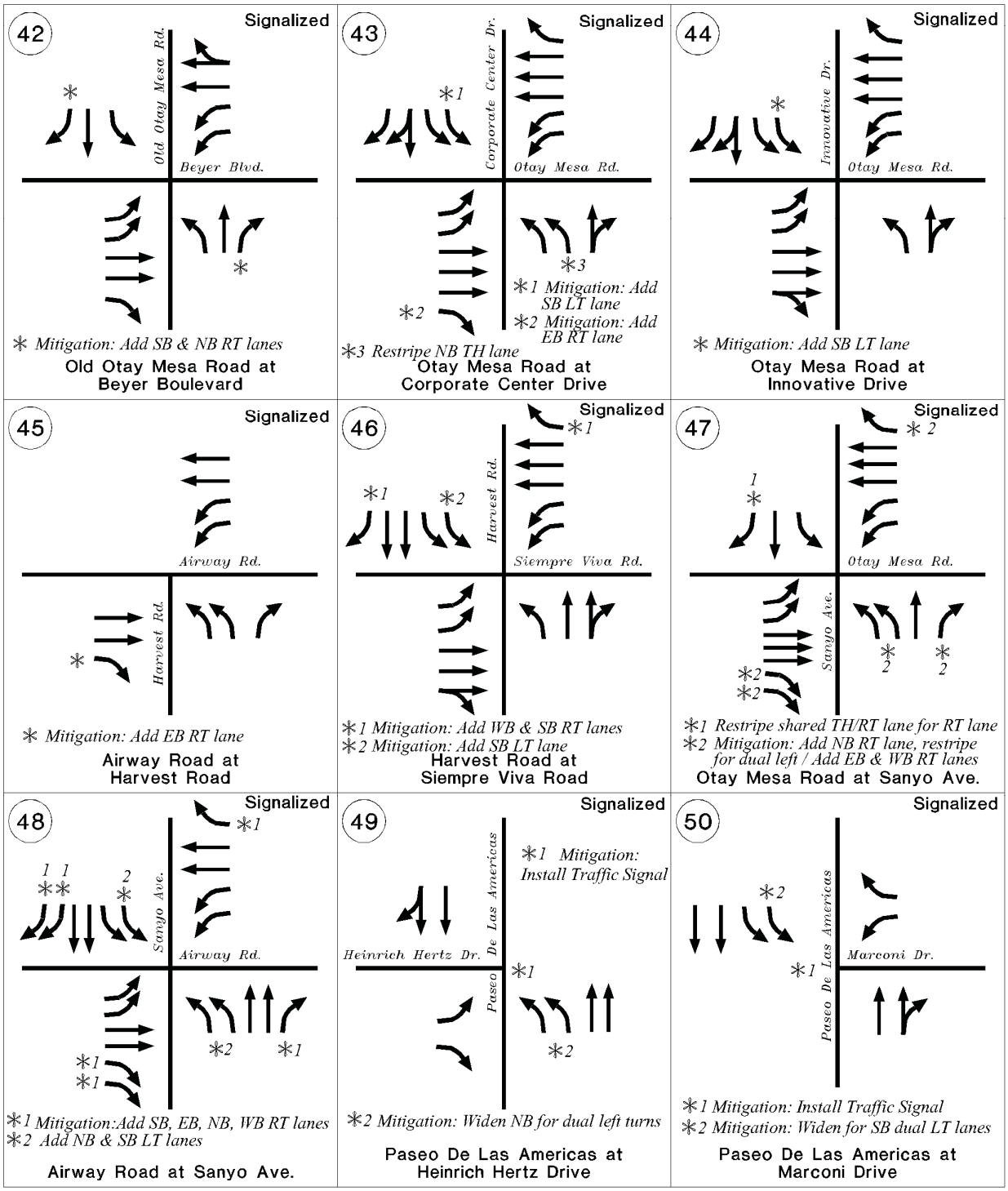


FIGURE 5.12-4f

Buildout Recommended Lane Configurations 42-50

Map Source: Urban Systems Associates, Inc. 2012

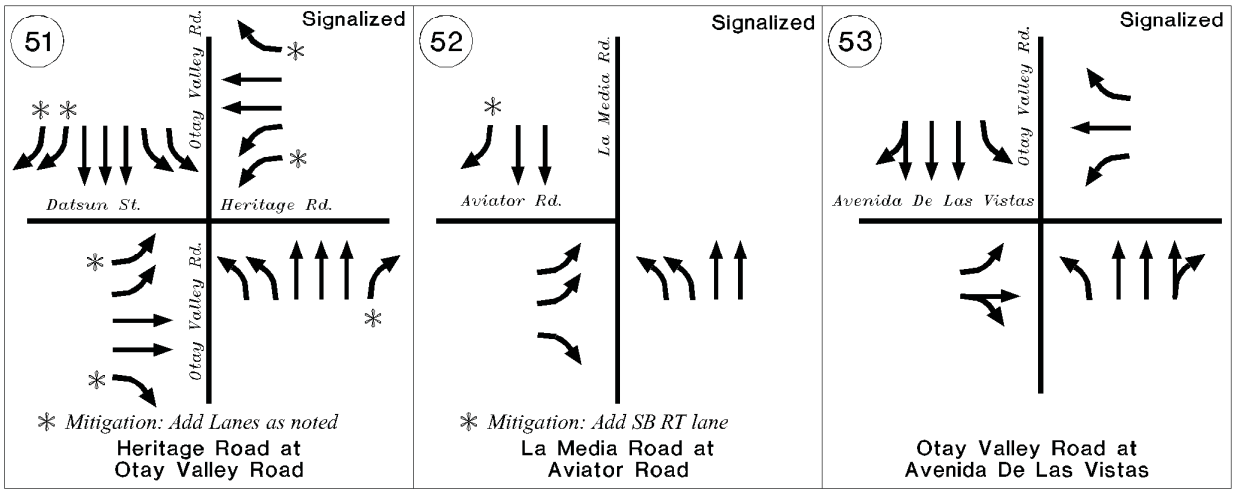


FIGURE 5.12-4g

Buildout Recommended Lane Configurations 51-53

d. Freeway Ramp Metering

Mitigation that would reduce freeway ramp metering impacts at the five significantly impacted SR-905 locations consists of adding a lane to the freeway on-ramp and implementation of transportation demand management (TDM) measures that encourage carpooling and other alternate means of transportation. At the time future discretionary development projects are proposed, project-specific traffic analyses would contain detailed recommendations. All project-specific mitigation for direct impacts shall be implemented prior to the issuance of Certificate of Occupancy in order to provide mitigation at the time of impact.

However, due to the uncertainty associated with implementing freeway ramp improvements, and uncertainty related to implementation of TDM measures, the freeway ramp impacts associated with the CPU would remain significant and unavoidable at the program-level.

5.12.3.4 Significance After Mitigation

a. Roadway Segments

Implementation of roadway segment improvements proposed as part of the CPU (see Section 5.12.3.1(a) above) would resolve several traffic impacts that would occur under the Horizon Year. However, 24 significant impacts would remain unavoidable.

b. Intersections

Implementation of intersection improvements identified in TRF-1 above, would occur in conjunction with future development within the CPU area and with implementation of Public Facilities Financing transportation projects. The improvements would reduce significant impacts to below a level of significance at the following ten intersections (see Table 5.12-7):

- Palm Avenue/I-805 NB Ramps
- Otay Mesa Road/Piper Ranch Road
- Ocean View Hills Parkway/Del Sol Boulevard
- Ocean View Hills Parkway/Street A
- Harvest Road/Airway Road
- Harvest Road/Siempre Viva Road
- Airway Road/Sanyo Avenue
- Paseo de las Americas/Heinrich Hertz Drive
- Paseo de las Americas/Marconi Drive
- Aviator Road/La Media Road

The remaining 39 intersections would continue to operate at unacceptable levels with the proposed mitigation. Additional intersection mitigation measures are not desirable

and not recommended as discussed in the Findings and Statement of Overriding Considerations. Additional mitigation such as TDM measures may be identified in the future at the project-level. Thus, these impacts would remain significant and not fully mitigated at the program-level.

c. Freeway Segments

The CPU would significantly impact five segments of SR-905. Caltrans has designed the SR-905 to allow for the construction of HOV lanes, which would reduce the CPU impacts to below a level of significance at two of the five impacted freeway segments. However, the addition of HOV lanes to SR-905 is not a funded or planned project at this time and improvements to these facilities cannot be guaranteed to be implemented by the City. Additional mitigation such as TDM measures may be identified in the future at the project-level. Thus, at the program-level, CPU impacts to the five SR-905 freeway segments would remain significant and unavoidable.

d. Freeway Ramp Metering

As discussed above under 5.12.3.3, due to the uncertainty associated with implementing freeway improvements, limitations on increasing ramp capacity, and uncertainty regarding implementation of TDM measures, the freeway ramp impacts associated with the CPU would remain significant and unavoidable at the program-level after mitigation.

5.12.4 Issue 2: Traffic Hazards

Would the project result in an increase in traffic hazards for motor vehicles, bicyclists, or pedestrians?

5.12.4.1 Impacts

The CPU is intended to create a balanced and safe multi-modal transportation network. As a part of this effort, the residential and industrial interfaces have been reduced and designated truck routes have been established (refer to Figure 3-7) to avoid the potential transportation conflicts caused by large haul trucks on residential and other streets where pedestrian use is expected to be heavy. Where an interface of International Business and Trade and residential designations would be allowed, policies have been established to require a gradual transition between residential and industrial uses that would reduce traffic conflicts (see Section 5.1.4.1).

All roadway improvements that would occur as part of CPU implementation would be constructed to City standards, including standards for sight distance, turning radii, speed limits, etc., and to the satisfaction of the City Engineer. Therefore, implementation of the CPU would not result in an increase in traffic hazards for motor vehicles, bicyclists or pedestrians.

5.12.4.2 Significance of Impacts

All roadway improvements would be designed and constructed in accordance with the CPU Mobility Element roadway network satisfactory to the City Engineer. Additionally, the CPU includes policies that would reduce potential conflicts between vehicle, pedestrian, and bicyclists. Conformance to City design standards and CPU policies would reduce impacts associated with traffic hazards to motor vehicles, bicyclists, or pedestrians to below a level of significance.

5.12.4.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation is required.

5.12.4.4 Significance After Mitigation

Impacts would be less than significant.

5.12.5 Issue 3: Circulation and Access

Would the CPU create alterations to present circulation movements in the area including effects on existing public access points?

5.12.5.1 Impacts

As discussed in Section 5.12.3.1 above, the CPU proposes alterations to the existing circulation system through roadway reclassifications within the CPU area. Buildout of the CPU would result in increased circulation capacity and access for vehicles, bicycles, and pedestrians (see Figures 3-4 to 3-6). The existing Otay Mesa POE and Brown Field access would be maintained.

Temporary closures with detours may be required during street improvements and would be addressed through traffic control plans in accordance with City policy as construction plans for future projects are processed through the City. No existing public access points would be permanently closed as part of CPU implementation.

5.12.5.2 Significance of Impacts

The CPU would not create alterations to present circulation movements in the area including existing public access points therefore impacts would be less than significant.

5.12.5.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation is required.

5.12.5.4 Significance after Mitigation

Impacts would be less than significant.

5.12.6 Issue 4: Alternative Transportation

Would the CPU conflict with the adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, trolley extensions, bicycle lanes, bicycle racks, etc.)?

5.12.6.1 Impacts

a. Network Configuration

The CPU includes plans for a pedestrian, transit, and bicycle transportation network (see Figures 3-4 and 3-5). With implementation of the CPU, Airway Road would serve as the principal community transportation and activity corridor. An east-west high frequency bus corridor is proposed to link between the South Bay bus rapid transit (BRT) and San Diego Trolley. The transit route that travels along Airway Road would link villages, employment centers, and Southwestern College within Otay Mesa. Additional right-of-way for Airway Road would provide the option for dedicated transit lanes or other transit priority measures. Additionally, a north-south BRT route is planned on SR-125 and SR-905 from the Otay Mesa POE north.

All local bus service within the CPU area would remain with implementation of the CPU. The BRT along the SR-125 and other bus routes in the CPU would continue to be operated by MTS. While the CPU takes into consideration future bus service, the future bus service to the area would be developed and provided by MTS. Changes to MTS bus service are out of the control of the Lead Agency (City).

The CPU would provide several more designated bicycle routes compared to the existing network, including a completely connected path along Airway Road; extending the Siempre Viva route; a connection from Otay View Hills Parkway through Caliente and Beyer; extension from Dennery Road through Ave de las Vistas/Exposition/ Corporate Center Drive to Otay Mesa Road; a route around the airport to Lone Star Road; and extended north-south routes on Cactus Road, Britannia, and La Media. Existing pedestrian paths are connected within the residential/commercial areas in the western plan area; however, the eastern plan area pedestrian network is fragmented and inconsistent. Buildout of the CPU would improve this condition by providing a connected pedestrian sidewalk along roadways. The proposed mixed-use areas would be designed to increase walkability. In this way, the CPU would positively affect alternative transportation.

b. CPU Goals and Policies

The CPU includes several goals and policies to promote alternative transportation consistent with the General Plan (see Section 5.12.1.1 for a summary of these goals and policies). The City of San Diego General Plan promotes alternative transportation through mixed-use villages, walkability, designs to promote transit, and bicycle access and transportation. As discussed in the Mobility Element (Chapter 3), the CPU includes the following alternative transportation goals:

- A pedestrian sidewalk and trails network that allows for safe and comfortable walking throughout the community.
- An effective transit network that provides fast and reliable service to local and regional destinations.
- A complete and interconnected street system that balances the needs of drivers, bicyclists, pedestrians, and others.
- A bicycle commuter network that links residents to transit, recreational, educational, and employment opportunities within the community.
- Transportation infrastructure and operations investments that facilitate goods movement and international travel, while fostering economic prosperity and a high quality of life within the community.
- Support for public health goals to increase the potential for walking and other forms of exercise to be incorporated into everyday life.

To implement these goals, the CPU includes a series of policies. Many of these policies promote alternative transportation by ensuring that such transportation would be safe, as detailed in Section 5.12.4 above. Also, several policies promote the future availability of transit, alternative transportation convenience (including connectivity and speed), and the appeal of alternative transportation. These policies include:

3.1-1 Provide a sidewalk and trail system with connections to villages, activity centers, and open spaces.

3.1-4 Enhance street or pedestrian connections within industrial superblocks through exterior improvements such as public art, pedestrian scale windows, entrances, signs, street furniture, landscape, and plazas.

3.1-5 Implement the Community Plan to contribute to more walkable, tree-lined streets, using identified drought-tolerant species.

3.2-1 Encourage SANDAG and MTS to expand transit investments and service in Otay Mesa.

3.2-2 Implement transit priority measures such as queue jumpers and signal priority measures to allow transit to bypass congestion and result in faster transit travel times at critical locations..

3.2-4 Emphasize transit orientation in village development plans including but not limited to those identified on the Community Plan Land Use Map, Community Plan Figure 2-1. See also OMCP Urban Design Element.

3.4-1 Refine and implement the Bicycle Master Plan in the Otay Mesa Community Plan area.

3.4-2 Provide multi-use trails in a manner consistent with the MSCP, including but not limited to the following locations (see also Recreation Element, Trails Figure 7-1). Please note that south of Otay Mesa Road these alignments are conceptual, with trail head areas and trail alignments being required with future specific plans.

All of these CPU policies and goals would be consistent with the City of San Diego's General Plan.

5.12.6.2 Significance of Impacts

The CPU would be consistent with existing policies supporting alternative transportation modes. There would be no conflict and, thus, there would be no impact.

5.12.6.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation is required.

5.12.6.4 Significance After Mitigation

Impacts would be less than significant.

5.13 Public Services

Public services are those functions that serve residents on a communitywide basis. Existing conditions for public services are included under Section 2.4, Public Infrastructure in the Environmental Setting. These functions include parks and recreation, libraries, schools, and fire and police protection. The following provides a discussion of these services and facilities as they relate to the CPU. This section is based on letters prepared by the service providers, which are included in Appendix K of this EIR. The locations of existing and planned facilities are shown on Figure 5.13-1.

5.13.1 Existing Conditions

5.13.1.1 Fire Protection

Fire protection services to the CPU area are provided by the City's Fire-Rescue Department (SDFD). The General Plan states that fire stations should be sited on lots that are at least three-quarters of an acre with room for expansion within two to two and a half miles apart and be staffed and equipped to respond to calls within their established standards. The SDFD's goal is one firefighter per 1,000 citizens. To ensure adequate fire protection response to fire calls, the SDFD adheres to national standards, which require an initial response of fire suppression resources, a four-person engine company, within 5 minutes, and an effective fire force, 15 firefighters, within 9 minutes of a call. In addition, emergency medical services (EMS) has ambulances, paramedics, and emergency medical technicians (EMTs) who respond to emergency calls.

The SDFD currently utilizes a four-level priority calls dispatch system. Level 1 is the most serious (e.g., heart attack, shortness of breath), and the closest fire engine and an advanced life support ambulance respond to this type of call. The fire crew has to respond within 8 minutes of being dispatched, and the ambulance has to respond within 12 minutes for Level 1 (the most serious) calls. A Level 2 call is the next most serious; however, these calls are either reprioritized up to a Level 1 call or down to a Level 3 call. Only the advanced life support ambulance responds to Level 2 calls; no fire station staff or equipment are deployed. The response time for a Level 2 call is 12 minutes, the same as for a Level 1 call. For a Level 3 call (e.g., someone having extended flu-like symptoms), either a basic or advanced life support ambulance would respond. A basic ambulance is staffed with two EMTs, whereas an advanced life support ambulance is staffed with one paramedic and one EMT. The response time for a Level 3 call is 18 minutes. For a Level 4 call, which is not an emergency (e.g., the patient could have driven him- or herself to a hospital), a basic ambulance would respond within 18 minutes of being dispatched. EMS is under contract to meet the 12- or 18-minute response times at least 90 percent of the time.

Fire station No. 43, located on the eastern end of Brown Field at 1590 La Media Road, serves the eastern portion of the plan area. As of 2011, the western portion of the community, north of I-905, is served by Fire Station No. 6, located in the adjacent Otay Mesa-Nestor community planning area. The remaining portion of the CPU area, south of I-905, is served by Fire Station No. 29, located in the San Ysidro community planning area. Each fire station is equipped with at least one engine and four firefighters per day, per shift.

Table 5.13-1 shows the average response times for all calls for Fiscal Year (FY) 2011 for each of the fire stations that serve the CPU area, as well as the number of incidents responded to.

TABLE 5.13-1
FIRE STATION RESPONSE TIMES AND INCIDENTS

Fire Station	FY2011 Average Response Time (minutes)	FY2011 Incidents Responded To
Fire Station 43*	7.25	570
Fire Station 6*	5.19	1,671
Fire Station 29		
Engine	5.06	1,441
Truck	5.09	1,618

SOURCE: SDFD 2011.
*Fire Stations No. 43 and 6 are only equipped with a single engine.

5.13.1.2 Police Protection

The CPU area is within the boundaries of Beat 713 of the San Diego Police Department's Southern Division. Southern Division, located at 1120 27th Street, provides police services to the following communities: Egger Highlands, Palm City, Nestor, Otay Mesa West, Ocean Crest, Tijuana River Valley, San Ysidro, Border, and Otay Mesa. The SDPD has mutual aid agreements with all other law enforcement agencies in San Diego County.

Southern Division is currently staffed with 84 sworn personnel and 1 civilian employee. The current patrol strength at Southern Division is 79 uniformed patrol officers (SDPD, pers. comm. with Lieutenant Kevin Mayer 2013).. Officers work 10-hour shifts. Staffing is composed of three shifts that operate from 6:00 A.M. – 4:00 P.M. (First Watch), 2:00 P.M. – 12:00 A.M. (Second Watch), and from 9:00 P.M. – 7:00 A.M. (Third Watch). Using the department's recommended staffing guidelines, Southern Division currently deploys a minimum of 9 patrol officers on First Watch, 11 officers on Second Watch, and 7 officers on Third Watch.

Map Source: Atkins

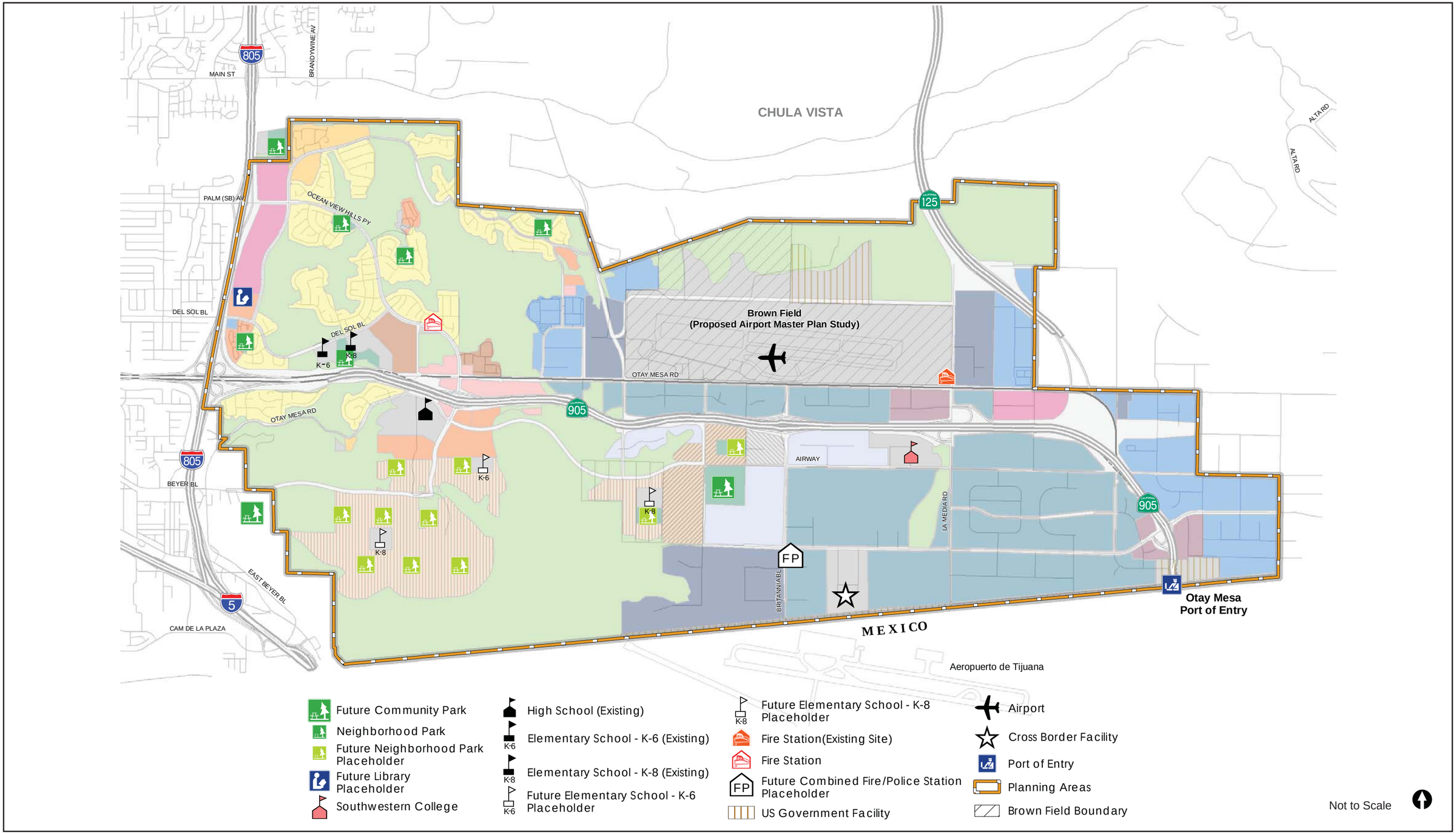


FIGURE 5.13-1
Community Facilities

M:\JOBS2\3957-1\env\graphics\fig5.13-1.ai 09/05/13

THIS PAGE IS INTENTIONALLY BLANK.

The SDPD does not staff individual stations based on ratios of sworn officers per 1,000-population ratio. The goal citywide is to maintain 1.48 officers per 1,000 population ratio. The SDPD is currently reaching its targeted staffing ratio of 1.48 sworn officers per 1,000 residents, based on 2011 estimate residential population of 1,311,882. The ratio is calculated to take into account all support and investigative positions within the SDPD. This ratio does not include the significant population increase resulting from citizens who commute to work from outside of the City or those visiting.

The SDPD currently utilizes a five-level priority calls dispatch system, which includes Priority E (Emergency), One, Two, Three, and Four. The calls are prioritized by the phone dispatcher and routed to the radio operator for dispatch to the field units. The priority system is designed as a guide, allowing the phone dispatcher and the radio dispatcher discretion to raise or lower the call priority as necessary based on the information received. Priority E and Priority One calls involve serious crimes in progress or those with a potential for injury. Priority Two calls include vandalism, disturbances, and property crimes. Priority Three includes calls after a crime has been committed, such as cold burglaries and loud music. Priority Four calls include parking complaints or lost and found reports.

Table 5.13-2 shows the year 2011 average response times for each priority level call within Beat 713. Also included in Table 5.13-2 are the citywide averages and police department goal response times.

TABLE 5.13-2
POLICE RESPONSE TIMES
(minutes)

Call Types	Beat 713 Average Response Times	Citywide Average Response Times	Department Goal Response Times
Emergency	8.3	6.6	7
Priority One	18.6	12.1	14
Priority Two	31.4	25.2	27
Priority Three	71.3	67.4	70
Priority Four	65.5	66.7	70

SOURCE: SDPD, personal communication with Lieutenant Kevin Mayer, January 11, 2013.

As shown in Table 5.13-2, the average response times for Beat 713 exceed the citywide average and department's goals for all calls, except Priority Four. The SDPD strives to maintain the response time goals as one of various other measures used to assess the level of service to the community.

5.13.1.3 Schools

The student population within the CPU area is served by the Sweetwater Union High School District (SUHSD), Chula Vista Elementary School District (CVESD), and San

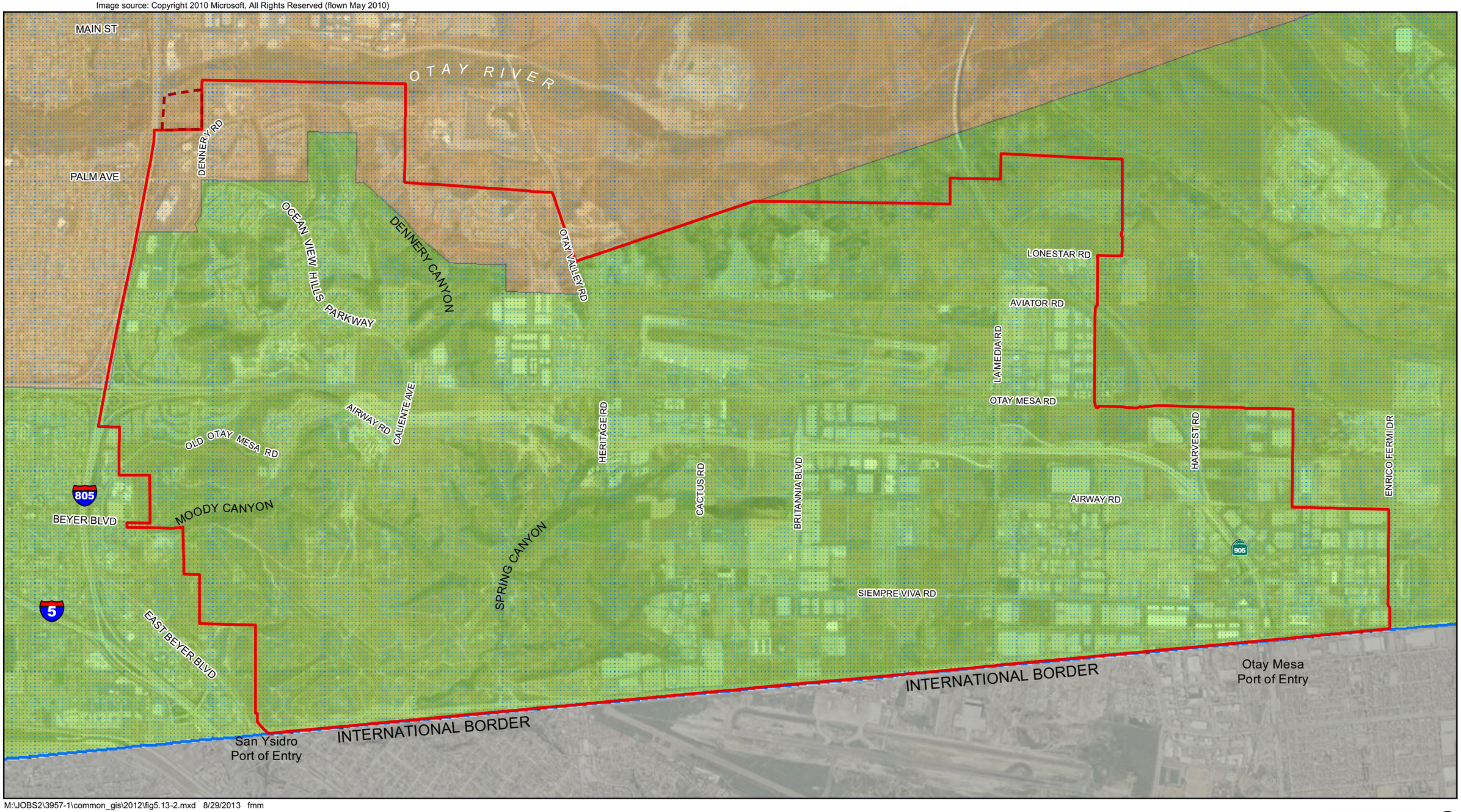
Ysidro School District (SYSD), as discussed below. Figure 5.13-2 shows the boundaries of each school district within the CPU area.

San Ysidro School District. SYSD serves the majority of the CPU area and extends easterly to the San Ysidro Mountains, covering areas within the jurisdiction of both the City and County of San Diego. The district has five elementary schools, one "paired" school, and one middle school (SYSD 2011). The paired school serves students in grades K-8, eliminating the need for a separate middle school. The schools within the SYSD that serve the CPU area are Beyer Elementary School (K-5), La Mirada Elementary School (K-5), Ocean View Hills (K-8), Smythe Elementary School (K-5), Sunset Elementary School (K-5), Willow Elementary School (K-5), and San Ysidro Middle School (6-8). The only SYSD school within the CPU area is Ocean View Hills (K-8), located at 4919 Del Sol Boulevard.

Chula Vista Elementary School District. CVESD serves a small northwestern portion of the CPU area. This district operates 34 schools, none of which are located within the CPU area.

Sweetwater Union High School District. SUHSD operates 18 junior and senior high schools and ancillary programs. The only SUHSD facility within the CPU area is the San Ysidro High School, located at 5333 Airway Road, just south of SR-905 in the western portion of the plan area. In addition, all middle school students not within SYSD attend Montgomery Middle School; Montgomery High School temporarily provides service for grades 9 through 12 for the portion of the CPU area between Del Sol Boulevard and I-805 and I-905 (SUHSD, pers. com. with Paul Woods, 2010). SUHSD also operates the San Ysidro Adult School near I-805 at the western edge of the CPU area. San Ysidro Adult School provides English language acquisition, literacy, adult secondary, and vocational education.

Image source: Copyright 2010 Microsoft, All Rights Reserved (flown May 2010)



M:\JOBS2\3957-1\common_gis\2012\fig5.13-2.mxd 8/29/2013 fmm

Otay Mesa Community Plan Boundary
Not A Part
Sweetwater Union High School District
Chula Vista Elementary School District
San Ysidro Elementary School District

0 Feet 2,500

FIGURE 5.13-2

School Districts within the CPU Area

THIS PAGE IS INTENTIONALLY BLANK.

Table 5.13-3 provides a summary of the enrollment status and capacity of the existing schools in the three districts which serve the CPU area.

TABLE 5.13-3
ENROLLMENT AND CAPACITY FOR SCHOOLS SERVING THE CPU AREA

School	Grades	2010-2011	Capacity
San Ysidro School District (SYSD)			
La Mirada Elementary School	K-5	528	642
Ocean View Hills School	K-8	1,211	1,001
Smythe Elementary School	K-8	536	924
Sunset Elementary School	K-6	758	888
Willow Elementary School	K-6	842	876
San Ysidro Middle School	7-8	894	1,022
Beyer Elementary School	K-6	372	774
Chula Vista Elementary School District (CVESD)			
Juarez Lincoln Accelerated	K-6	647	800
Sweetwater Union High School District (SUHSD)			
Montgomery Middle School	7-8	875	1,170
Montgomery High School	9-12	1,604	2,284*
San Ysidro High School	9-12	2,412	2,688*

SOURCE: SYSD, CVESD, and SUHSD 2010–2011 enrollment data from California Department of Education 2011.
SUHSD capacity data from SUHSD, November 2010.
*Includes temporary, portable schools.

In addition to the schools addressed above, Southwestern College Higher Education Center opened in the fall of 2007 in the southeastern portion of the CPU area near the corner of La Media and Airway Road. The new facility offers general education and occupational courses and has a capacity to serve up to 5,000 students. Signature programs offered include police academy, nursing, environmental technology, fire science technology, and paramedic and emergency medical technician.

5.13.1.4 Parks and Recreation

There are currently 2,624 acres combined of parkland and open space (54 and 2,570 acres, respectively) within the CPU area (City of San Diego 2011a). This acreage is composed of neighborhood, community, and resource-based parks, as well as open space lands which provide recreation opportunities.

Parks are categorized as resource-based and population-based. Resource-based parks are located at the site of distinctive scenic, natural, or cultural features and are intended for citywide use. Areas within resource-based parks may be developed with trails, sports fields, and recreational facilities. Population-based parks are usually located in close proximity to residential development or school facilities and are categorized as neighborhood parks and community parks depending on their size and the area they serve.

a. Population-based Parks and Facilities

The City's Park and Recreation Department maintains more than 40,000 acres of developed and undeveloped open space and parkland categorized as population-based parks, resource-based parks, and open space. The physical facilities, plus classes, programs, and activities at these facilities constitute San Diego's municipal recreation system.

The General Plan park standard is to provide a minimum of 2.8 usable acres of population-based parks per 1,000 residents, or a combination of usable acreage and park equivalencies. It is noted that joint use agreements can be executed with the school district to obtain credit for park area associated with schools.

Usable acres means a graded pad not exceeding 2 percent rough grade, or gently sloping land not exceeding 10 percent grade, as required to provide for structured, public recreational programs of an active nature common to local parks in the City (such as ball games or court games) or unstructured public recreational activities, such as children's play areas, appreciation of open spaces, or a combination thereof, unconstrained by environmental restrictions that would prevent its use as a park and recreational facility, free of structures, roads, or utilities, and unencumbered by easements of any kind. The allowable amount of usable exceeding 2 percent grade at any given park site is determined on a case-by-case basis by the City.

Table 5.13-4 provides of the population-based park standards from the General Plan.

TABLE 5.13-4
POPULATION-BASED PARK STANDARDS

Park Type	Guidelines	Typical Components
Major Park	• 20 acres minimum; approximately 30 acres typical • Serves single or multiple community plan area(s) population(s) • Parking provided	• Specialized facilities that serve larger populations • Passive and active recreation facilities • Facilities found in Community Parks • Could include facilities found in Special Activity Parks • Community cultural facilities • Also called “Great Parks” or “Grand Parks”
Community Park	• 13-acre minimum (consistent with program and facilities on-site) • Serves population of 25,000 • Typically serves one community plan area but depending on location, may serve multiple community planning areas • Parking provided	• Passive and active recreation facilities • Facilities found in Neighborhood Parks • Could include facilities found in Special Activity Parks • Community cultural facilities • Recreation centers • Aquatic complexes • Multi-purpose sports fields
Neighborhood Park	• 3 acres – 13 acres • Serves population of 5,000 within approximately 1 mile • Accessible primarily by bicycling and walking • Minimal parking as necessary, only if 5 acres or more	• Picnic areas, children’s play areas, multi-purpose courts, multi-purpose turf areas, comfort stations, walkways and landscaping • Also called “Greens” in urban settings
Mini Park	• 1 acre – 3 acres • Serves population within ½ mile • Accessible by bicycling and walking • No on-site parking, except for disabled access • May require funding source for extraordinary maintenance	• Picnic areas, children’s play areas, small multi-purpose courts, multi-purpose turf areas, walkways and landscaping • Also called “Squares” in urban settings
Pocket Park or Plaza	• Less than 1 acre • Serves population within ¼ mile • Accessible by bicycling and walking • No on-site parking, except for disabled access • May require funding source for extraordinary maintenance	• Primarily hardscape • Picnic areas, children’s play areas, walkways and landscaping • Multi-purpose courts • Multi-purpose turf areas

SOURCE: City of San Diego 2008.

Neighborhood Parks and Facilities

There are two existing neighborhood parks within the CPU area: Vista Pacifica and Ocean View Hills. Vista Pacifica is a 6-acre park located in the Robinhood Ridge Precise Plan area. Ocean View Hills is a 5.1-acre park located on Ocean View Hills Parkway. Both of these neighborhood parks provide a children’s play area, picnic facilities, and passive lawn areas. The design of future neighborhood parks should be determined by the population and use characteristics of the neighborhood. Play areas, multi-purpose courts, picnic facilities, landscaping, and lawn areas are usual accommodations when

space permits and when appropriate for the specific neighborhood (City of San Diego 2011b).

The adopted PFFP and the CPU identify three neighborhood parks within the Northwest District of the CPU that are planned for construction: Dennery Ranch, Riviera del Sol, and Hidden Trails (City of San Diego 2011a). Dennery Ranch would be an 11.1-acre park east of I-805 and north of Ocean View Hills Parkway. Riviera del Sol would be a 4.9-acre park east of I-805 and north of SR-905. Hidden Trails would be a 3.7-acre park located in the Hidden Trails subdivision.

Community Parks and Recreation Centers

Community parks are intended to provide a wide range of facilities that supplement those of the neighborhood parks and are determined by the needs, preferences, and use characteristics of the community. Athletic fields, multipurpose courts, picnic facilities, play areas, recreation buildings, lawn areas, and landscaping are standard facilities when possible and desirable (City of San Diego 2011b).

Two community parks are being constructed within the plan area: Beyer and Pacific Breezes. Pacific Breezes would be approximately 15 acres and is located adjacent to the 5-acre joint use area within the Ocean View Hills School north of SR-905. A 17,000-square-foot recreational building is planned for completion within the Pacific Breezes community park between 2013 and 2015. Beyer Community Park is located just west of Otay Mesa along Beyer Boulevard and the I-805 freeway. This 20.0-acre facility would be built as development occurs within Otay Mesa; however, it would only provide 7.5 usable acres of recreation and is not scheduled for completion until 2018. Although Beyer Community Park would be located in the adjacent San Ysidro community, it would jointly serve the needs of the communities of Otay Mesa and San Ysidro.

b. Resource-based Parks

Resource-based parks are located at the site of distinctive scenic or natural or cultural features and are intended for citywide use. They are meant to supplement the neighborhood and community parks, and they serve the entire City and its visitors rather than any one community. However, they can also function to fulfill local neighborhood and community park needs of surrounding residents (City of San Diego 2011b). The OVRP is an important resource-based park located adjacent to the northern boundary of the CPU area. Approximately 206 acres of OVRP are within the CPU area. OVRP provides recreational opportunities ranging from playing fields and picnic areas to hiking, biking, and horse trails. At the same time, the park protects open space, wildlife, historic, agricultural, and archaeological resources. There are plans for multi-use areas and an extensive trail system within the park's boundaries.

c. Open Space Lands

Approximately 2,748 acres (29 percent) of the CPU area is designated as open space; a majority (2,200 acres) of this acreage is within the MHPA. As of 2012, 1,837 acres have been conserved (see Figure 5.1-7). This important open space system is comprised of steep canyons and areas that contain sensitive biological resources. There are two open space areas within or adjacent to the plan area: Spring Canyon and Dennery Canyon. Spring Canyon, south of SR-905, is a series of long finger canyons that provide dramatic views and steep descents to the canyon floor. In addition, Dennery Canyon is an open space network within the OVRP system and wraps around the northwest neighborhoods of the plan area.

5.13.1.5 Libraries

The City operates a central library located in downtown San Diego and 35 branch libraries in neighborhoods throughout the City. A new central library, located in downtown San Diego, is under construction and estimated to be completed in July 2013. The library will be 497,652 square feet within nine stories, and will include a charter high school on two floors, two levels of parking, and an auditorium. Total library attendance exceeded six million people in 2010, with branch libraries serving over 90 percent of those visitors (City of San Diego 2011c). Because the service area size of a branch library is a 2-mile radius, proximity to active commercial areas, town centers, and other municipal or civic uses, as well as access to public transportation and parking, are considered in the planning and siting of facilities.

There are currently no branch libraries within the CPU area. Primary library service is provided by the Otay Mesa-Nestor Branch Library, located at 3003 Coronado Avenue, west of I-805. This library reopened in April 2006 after being expanded to 15,000 square feet. Library service is also provided by the San Ysidro Branch Library, located at 101 W. San Ysidro Boulevard. The General Plan encourages branch libraries to be a minimum of 15,000 square feet of dedicated library space, with adjustments for community-specific need. According to the City's 2011 thresholds, "branch libraries should serve a resident population of 30,000 and may be established when a service area, which is expected to grow to 30,000 residents within 20 years of library construction, has a minimum population of 18,000 to 20,000" (City of San Diego 2011c).

5.13.1.6 Regulatory Framework

a. State Legislation

Senate Bill 50

Section 17620 of the California Education Code authorizes school districts to collect fees to mitigate the impact of new development on enrollment in the district. The State

Allocation Board determines the maximum level of fees a district can levy for residential and commercial/industrial development (City of San Diego 2008a). Government Code Section 65996 also recites that the development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation" for the purposes of CEQA or for any other reason.

b. General Plan Policies

The Public Facilities, Services, and Safety Element of the General Plan includes policies on the prioritization and provision of public facilities and services, evaluation of new growth, guidelines for implementing a financing strategy, and guidelines for the provision of specific facilities.

The Recreation Element of the General Plan seeks to acquire, develop, operate/ maintain, increase, and enhance public recreation opportunities and facilities throughout the City. The element contains population-based guidelines for park and recreation facilities and presents alternative strategies to meet those guidelines.

Relevant policies from these elements are shown in Table 5.13-5.

TABLE 5.13-5
GENERAL PLAN POLICIES RELATED TO PUBLIC SERVICES

Policy	Description
Public Facilities, Services and Safety Element	
Fire-Rescue	
PF-D.1.	Locate, staff, and equip fire stations to meet established response times. Response time objectives are based on national standards. Add one minute for turnout time to all response time objectives on all incidents. • Total response time for deployment and arrival of the first-in engine company for fire suppression incidents should be within four minutes 90 percent of the time. • Total response time for deployment and arrival of the full first alarm assignment for fire suppression incidents should be within eight minutes 90 percent of the time. • Total response time for the deployment and arrival of first responder or higher-level capability at emergency medical incidents should be within four minutes 90 percent of the time. • Total response time for deployment and arrival of a unit with advanced life support (ALS) capability at emergency medical incidents, where this service is provided by the City, should be within eight minutes 90 percent of the time.
PF-D.2.	Deploy to advanced life support emergency responses EMS personnel including a minimum of two members trained at the emergency medical technician-paramedic level and two members trained at the emergency medical technician-basic level arriving on scene within the established response time as follows: • Total response time for deployment and arrival of EMS first responder with Automatic External Defibrillator (AED) should be within four minutes to 90 percent of the incidents; and • Total response time for deployment and arrival of EMS for providing advanced life support should be within eight minutes to 90 percent of the incidents.
PF-D.3.	Adopt, monitor, and maintain service delivery objectives based on time standards for all fire, rescue, emergency response, and lifeguard services.
PF-D.4.	Provide a 3/4-acre fire station site area and allow room for station expansion with additional considerations: • Consider the inclusion of fire station facilities in villages or development projects as an alternative method to the acreage guideline; • Acquire adjacent sites that would allow for station expansion as opportunities allow; and • Gain greater utility of fire facilities by pursuing joint use opportunities such as community meeting rooms or collocating with police, libraries, or parks where appropriate.

TABLE 5.13-5
GENERAL PLAN POLICIES RELATED TO PUBLIC SERVICES
(continued)

Policy	Description
PF-D.5.	Maintain service levels to meet the demands of continued growth and development, tourism, and other events requiring fire-rescue services. a. Provide additional response units, and related capital improvements as necessary, whenever the yearly emergency incident volume of a single unit providing coverage for an area increases to the extent that availability of that unit for additional emergency responses and/or non-emergency training and maintenance activities is compromised. An excess of 2,500 responses annually requires analysis to determine the need for additional services or facilities.
PF-D.6.	Provide public safety related facilities and services to assure that adequate levels of service are provided to existing and future development.
PF-D.7.	Evaluate fire-rescue infrastructure for adherence to public safety standards and sustainable development policies (see also Conservation Element, Section A).
PF-D.8.	Invest in technological advances that enhance the City's ability to deliver emergency and fire-rescue services more efficiently and cost-effectively.
PF-D.10.	Buffer or incorporate design elements to minimize impacts from fire stations to adjacent sensitive land uses, when feasible.
Police	
PF-E.1.	Provide a sufficient level of police services to all areas of the City by enforcing the law, investigating crimes, and working with the community to prevent crime.
PF-E.2.	Maintain average response time goals as development and population growth occurs. Average response time guidelines are as follows: • Priority E Calls (imminent threat to life) within seven minutes. • Priority 1 Calls (serious crimes in progress) within 12 minutes. • Priority 2 Calls (less serious crimes with no threat to life) within 30 minutes. • Priority 3 Calls (minor crimes/requests that are not urgent) within 90 minutes. • Priority 4 Calls (minor requests for police service) within 90 minutes.
PF-E.3.	Buffer or incorporate design elements to minimize impacts from police stations to adjacent sensitive land uses, when feasible.
PF-E.4.	Plan for new facilities, including new police substations and other support facilities that will adequately support additional sworn and civilian staff.
PF-E.5.	Design and construct new police facilities consistent with sustainable development policies (see also Conservation Element, Section A).
PF-E.6.	Monitor how development affects average police response time goals and facilities needs (see also PF-C.5).

TABLE 5.13-5
GENERAL PLAN POLICIES RELATED TO PUBLIC SERVICES
(continued)

Policy	Description
PF-E.7.	Maintain service levels to meet demands of continued growth and development, tourism, and other events requiring police services. a. Analyze the need for additional resources and related capital improvements when total annual police force out-of-service time incrementally increases by 125,000 hours over the baseline of 740,000 in a given year. Out-of-service time is defined as the time it takes a police unit to resolve a call for service after it has been dispatched to an officer.
Libraries	
PF-J.1.	Develop and maintain a central library to adequately support the branch libraries and serve as a major resource library for the region and beyond.
PF-J.2.	Design all libraries with a minimum of 15,000 square feet of dedicated library space, with adjustments for community-specific needs. Library design should incorporate public input to address the needs of the intended service area.
PF-J.3.	Plan for larger library facilities that can serve multiple communities and accommodate sufficient space to serve the larger service area and maximize operational and capital efficiencies.
PF-J.4.	Build new library facilities to meet energy efficiency and environmental requirements consistent with sustainable development policies (see also Conservation Element).
PF-J.5.	Plan new library facilities to maximize accessibility to village centers, public transit, or schools.
PF-J.6.	Design libraries to provide consistent and equitable services as communities grow in order to maintain service levels which consider operational costs and are based on established guidelines.
PF-J.7.	Pursue joint use of libraries with other compatible community facilities and services including other City operations.
PF-J.8.	Build and maintain a library system that adapts to technological changes, enhances library services, expands access to digital information and the internet, and meets community and library system needs.
PF-J.9.	Adopt an equitable method for securing contributions from those agencies and organizations which benefit from the central library's services.
Schools	
PF-K.1.	Assist the school districts and other education authorities in resolving problems arising over the availability of schools and educational facilities in all areas of the City.
PF-K.2.	Design schools as community learning centers, recognize them as an integral part of our neighborhoods, and encourage equitable access to quality schools and other educational institutions.
PF-K.3.	Consider use of smaller school sites for schools that have smaller enrollments, and/or incorporate space-saving design features (multi-story buildings, underground parking, placement of playgrounds over parking areas or on roofs, etc.).

TABLE 5.13-5
GENERAL PLAN POLICIES RELATED TO PUBLIC SERVICES
(continued)

Policy	Description
PF-K.4.	Collaborate with school districts and other education authorities in the siting of schools and educational facilities to avoid areas with: fault zones; high-voltage power lines; major underground fuel lines; landslides and flooding susceptibility; high-risk aircraft accident susceptibility; excessive noise (see also Noise Element, Noise Compatibility Guidelines); industrial uses; hazardous material sites, and significant motorized emissions.
PF-K.5.	Work with school districts and other education authorities to better utilize land through development of multi-story school buildings and educational facilities.
PF-K.6.	Expand and continue joint use of schools with adult education, civic, recreational (see also Recreation Element, Section E) and community programs, and also for public facility opportunities.
PF-K.7.	Work with the school districts and other education authorities to develop school and educational facilities that are architecturally designed to reflect the neighborhood and community character, that are pedestrian-and cycling-friendly (see also Mobility Element, Policy ME-A.2), and that are consistent with sustainable development policies (see also Conservation Element, Section A) and urban design policies (see also Urban Design Element, Section A).
PF-K.8.	Work with school districts and other education authorities to avoid environmentally protected and sensitive lands in the siting of schools and educational facilities.
PF-K.9.	Work with school districts and other education authorities in evaluating best use of underutilized school district and other educational authority facilities and land for possible public acquisition and/or joint-use.
Recreation Element	
Park and Recreation/Park Planning	
RE-A.2.	Use community plan updates to further refine citywide park and recreation land use policies consistent with the Parks Master Plan. a. In the absence of a Parks Master Plan, utilize community plans to guide park and recreation facilities acquisition and development citywide. b. Coordinate public facilities financing plans with community plan and the Parks Master Plan recommendations to properly fund needed park and recreation facilities throughout the City. c. Identify the location of population-based parks when updating community plans so they are accessible and centrally located to most users, unless a community benefit can be derived by taking advantage of unique opportunities, such as adjacency to open space, park linkages, desirable views, etc.
RE-A.3.	Take advantage of recreational opportunities presented by the natural environment, in particular beach/ocean access and open space.
RE-A.4.	Consider existing, long-term recreation facilities provided by not-for-profit organizations when establishing priorities for new facilities.
RE-A.5.	Improve distribution of the most specialized recreation facilities, such as water play areas, swimming pools, off-leash dog areas, and skate parks.

TABLE 5.13-5
GENERAL PLAN POLICIES RELATED TO PUBLIC SERVICES
(continued)

Policy	Description
RE-A.6.	Pursue opportunities to develop population-based parks. a. Identify underutilized City lands with potential for use as mini-parks, pocket parks, plazas and community gardens. b. Encourage community participation in development and maintenance of City-owned mini-parks, pocket parks, plazas, and community gardens. c. Pursue acquisition of lands, as they become available, that may be developed as mini-parks, pocket parks or plazas.
RE-A.7.	Establish a policy for park design and development which encourages the use of sustainable methods and techniques to address water and energy conservation, green buildings, low maintenance plantings and local environmental conditions, such as soil and climate (see also Conservation Element, Section A).
Park and Recreation/Park Standards	
RE-A.8.	Provide population-based parks at a minimum ratio of 2.8 useable acres per 1,000 residents (see also Parks Guidelines). a. All park types within the Population-based Park Category could satisfy population-based park requirements (see also Table RE-2, Parks Guidelines). b. The allowable amount of useable acres exceeding two percent grade at any given park site would be determined on a case-by-case basis by the City. c. Include military family housing populations when calculating population-based park requirements.
RE-A.10.	Encourage private development to include recreation facilities, such as children's play areas, rooftop parks and courts, useable public plazas, and mini-parks to supplement population-based parks. (see also Urban Design Policies, UD-B.8 and UD-C.5): a. Consider partial credit for the provision of private recreation facilities when it is clearly identified that the facilities and programs provide a public benefit and are intended to help implement the population-based park guidelines and are bound by easements and agreements that remain in effect in perpetuity according to adopted policies (see also RE-A.1.g).
Park and Recreation/Equity	
RE-A.11.	Develop a diverse range of recreation programs that are sensitive to and consider community needs, interests, and financial resources.
RE-A.12.	Ensure that appropriate quality and quantity of parks, recreation facilities and infrastructure is provided citywide.
RE-A.13.	Designate as a priority, in economically disadvantaged and underserved neighborhoods, the identification of funding sources for acquisition and development of park and recreation facilities.
RE-A.14.	Designate as a priority, in economically disadvantaged and underserved neighborhoods, the development of population-based parks and recreation facilities for local youth activities.

TABLE 5.13-5
GENERAL PLAN POLICIES RELATED TO PUBLIC SERVICES
(continued)

Policy	Description
Park and Recreation/Implementation	
RE-A.15.	Ensure that adequate funding is identified in public facilities financing plans for the acquisition and development of sufficient land necessary to achieve a minimum ratio of 2.8 useable acres per 1,000 residents or appropriate equivalencies, including any unmet existing/future needs.
RE-A.16.	Adopt an ordinance which authorizes implementation of the state Subdivision Map Act/Quimby Act and provides a methodology for collecting land and/or appropriate park fees from new subdivisions for population-based parks and recreation facilities to serve future residents.
RE-A.17.	Ensure that all development impact fees and assessments collected for the acquisition and development of population-based parks and recreation facilities be used for appropriate purposes in a timely manner.
RE-A.18.	Pursue joint use agreements for recreational facilities on other public agency-owned land to help implement the population-based park acreage requirements if they meet the criteria for equivalencies (see also Eligible Population-Based Park Equivalencies).

SOURCE: City of San Diego General Plan Public Facilities, Services, and Safety Element and Recreation Element 2008.

5.13.2 Significance Determination Thresholds

Based on the City's Significance Determination Thresholds, a significant public services impact would occur if the CPU would:

1. Promote growth patterns resulting in the need for and/or provision of new or physically altered public facilities, the construction of which could cause significant environmental impacts in order to maintain service ratios, response times, or other performance objectives.

5.13.3 Issue 1: Public Facilities

In order to maintain acceptable service ratios, response times, or other performance objectives, would the CPU promote growth patterns resulting in the need for the provisions of new or altered public facilities, the construction of which could cause significant physical impacts?

5.13.3.1 Impacts

Implementation of the CPU would increase the demand for public services and facilities within the CPU area. Construction of new facilities has the potential to result in significant physical impacts. The General Plan and the CPU both include policies that would reduce construction impacts by requiring projects to minimize landform alteration and utilize sustainable building practices to help ensure that the actual construction of

public facilities would be as environmentally sensitive as possible. In addition, both plans incorporate the City of Villages strategy, which was designed to create a development pattern that could be efficiently served by public facilities and utilities. Compact, mixed-use development, as proposed by the CPU within village centers, would create an efficient land use pattern by concentrating growth into targeted areas.

Public facilities and services such as emergency services, schools, libraries, and parks are often supported through financing mechanisms such as development impacts fees, the establishment of FBAs, and a PFFP. The PFFP for Otay Mesa would serve to implement the CPU by identifying the specific public facilities needed to comply with General Plan and Otay Mesa Community Plan standards. The PFFP would include a description of public facilities with funding sources, and a schedule of proposed FBAs. The dollar amount of the assessment would be based upon the cost of each public facility equitably distributed over a designated area of benefit in the CPU area. Fees would be paid on the actual development when construction permits are issued.

a. Fire Protection

The projected population for the CPU at buildout is 67,035 residents. Implementation of the CPU would result in increased population within the project area, thus increasing demand for fire protection services. Based on this projected population, in order to maintain the current standards, a total of 67 firefighters would be needed upon buildout of the CPU. In addition, this increased population would increase the call volume for the engine companies assigned to the CPU area and would contribute to the need for new or altered facilities.

In addition to the aforementioned General Plan policies regarding fire protection, the CPU includes Policies 6.1-1 through 6.1-3, which address the provision of fire protection services. Specifically, Policy 6.1-1 aims to maintain fire protection service levels to meet the demands of continued growth and development in the community by monitoring the effect of development on response times and facility needs. In accordance with General Plan Policy PF-D.4, Policy 6.1-2 calls for the construction of a minimum of 10,500-square-foot fire station (future Fire Station No. 49) and an additional 10,000-square-foot fire station to be collocated with the police facilities to ensure the department meets established response times (see Figure 5.13-1).

The construction of Fire Station No. 49 and the 10,000-square-foot collocated facility are specifically contemplated by the PFFP for the CPU. The construction of these facilities would be within the development footprint of the CPU and would be subject to separate environmental review at the time design plans are available. Therefore, at the program-level of analysis, impacts related to the construction of new fire-rescue facilities would be less than significant.

b. Police Protection

The CPU would result in increased population within the CPU area, thus increasing demand for police protection services. As shown in Table 5.13-2, above, the average response times for Beat 713 exceed both the citywide average and police department goals for all calls, except Priority Four. Police response times in the CPU area would continue to increase with the buildout of the CPU and the increase of traffic generated by new growth. The SDPD strives to maintain the response time goals as one of various other measures used to assess the level of service to the community.

The city-wide staffing ratio for police officers to population is 1.45 officers per 1,000 residents based on 2010 estimate residential population of 1,376,173 and a police force of 1,969.5 officers (FY 2012). The ratio is calculated using the department's total staffing to take into account the support and investigative positions within the department. As previously discussed under existing conditions, the SDPD does not staff individual stations based on ratios of sworn officers per 1,000-population ratio.

In addition to the aforementioned General Plan policies regarding police protection, the CPU includes Policy 6.1-1, which aims to maintain police service levels to meet the demands of continued growth and development in the community by monitoring the effect of development on response times and facility needs. As discussed above under Fire Protection, this policy also calls for the identification and construction of a collocated fire and police protection facility. Crime Prevention through Environmental Design (CPTED) is also advocated by the police department to address general security concerns within the community (SDPD, pers. comm. with Captain Manny Guaderrama, 2010). CPTED is based on the idea that the proper design and effective use of the built environment can lead to a reduction in the incidence of crime.

A 10,000-square-foot collocated police/fire-rescue facility is contemplated by the PFFP for the CPU. The construction of this facility would be within the development footprint of the CPU and would be subject to separate environmental review at the time design plans are available. Therefore, at the program-level of analysis, impacts related to the construction of a new collocated police/fire-rescue facility would be less than significant.

c. Schools

Buildout of the CPU has the potential to result in a substantial increase in the student population in the community. This EIR addresses the student generation that would occur as a result of the implementation of the CPU, identifies the need for new schools, and the associated physical impacts of their construction.

Table 5.13-6 shows the student generation rates for single- and multi-family residential development for grades K-12 and associated number of students generated at buildout of the CPU.

TABLE 5.13-6
SINGLE-FAMILY AND MULTI-FAMILY STUDENT GENERATION RATES FOR SAN YSIDRO AND SWEETWATER HIGH SCHOOL DISTRICTS AND PROJECTED STUDENT POPULATION AT BUILDOUT OF THE CPU

School Level	Student Generation Rate		Number of Units		Number of Students
	SF	MF	SF	MF	Total
K-8 (San Ysidro)	0.4628	0.5424	3,076	13,437	9,312
K-6 (750 Capacity) and K-8 (1200 Capacity) "Paired"	0.4628	0.5424			9,312
9-12 Sweetwater	0.1939	0.1171	4,273	14,501	2,527
TOTAL					21,151

SOURCE: City of San Diego (previous facilities consultant, PDC, est. 2006)
SF = single-family; MF = multi-family

The total number of students in Table 5.13-6 is based on the 18,774 dwelling units proposed under the CPU, which includes 4,273 single-family and 14,501 multi-family units.

Chula Vista Elementary School District

Student generation rates for the CVESD are not included within Table 5.13-6. The CVESD indicated in a response to a request for information that the portion of the CPU area that lies within the CVESD's boundary would not result in generation of additional students. Thus, there would be no need for additional schools or associated physical impacts.

San Ysidro School District

As shown in Table 5.13-6, buildout of the CPU would result in an increase in student population within the SYSD. The CPU indicates that it is the intent of the City to collaborate with SYSD on the locations for two to three additional K-8 schools and one to three additional K-6 schools within the Southwest and Central Village areas to meet increased demand associated with the proposed project (Policy 2.6-2.c, City of San Diego 2011a). While siting has not yet been determined, these schools would be clustered in areas of residential development to serve the increased population.

Sweetwater Union High School District

Buildout of the CPU would result in an increase in student population within the SUHSD that would exceed existing capacity (SUHSD, pers. com. with Paul Woods, 2010). While Montgomery High School has capacity for additional students, the California Department of Education (CDE) recommends no more than 1,400 students on that campus because of site size (SUHSD, pers. com. with Paul Woods, 2010). As such, current enrollment exceeds this recommendation by approximately 204 students. In addition, based on current capacity, San Ysidro High School has room for approximately 276 additional

students in temporary portables. However, based on the CDE recommended maximum capacity of 1,800 students for San Ysidro High School, current enrollment exceeds this recommendation by approximately 614 students (SUHSD, pers. com. with Paul Woods, 2010). The CPU indicates that it is the intent of the City to collaborate with SUHSD on the location of one additional high school to meet increased demand (Policy 2.6-2.d, City of San Diego 2011a). While siting has not yet been determined, the CPU indicates that this facility would be located within the central portion of the planning area, south of Airway Road (see Figure 5.13-1).

Policies in the General Plan promote cooperation with educational agencies and school districts in the siting of future schools. As an example, the proximity of the school site to fault zones and noise generators as well as avoidance of hazardous areas and sensitive lands (biological and historical resources) are considered in the siting of new facilities. In addition, school sites would be designed to be compatible with the neighborhood or provide joint use facilities.

It is a goal of the CPU to provide educational opportunities within the community. In support of this goal, the CPU includes Policy 6.6-3 which encourages coordination with SYSD and SUHSD to ensure that adequate public facilities and infrastructure are in place, and compliance with maximum school enrollments are achieved consistent with demand.

The individual school districts are responsible for planning, siting, building, and operating schools in their responsible districts within the CPU area. When additional demand warrants, the provision of school facilities is the responsibility of the San Ysidro School District and Sweetwater Union High School District. Government Code Section 65995 and Education Code Section 53080 authorize school districts to impose facility mitigation fees on new development as a method of addressing increased enrollment resulting from that development. State SB 50 significantly revised developed fee and mitigation procedures for school facilities as set forth in Government Code Section 65996. The legislation holds that the statutory fees are the exclusive means of considering and mitigating school impacts. SB 50 limits the mitigation that may be required to the scope of the review of any future project's impacts to schools, and the findings for school impacts. Payment of the statutory fees by future projects consistent with the CPU would constitute full and complete mitigation. Thus, the payment of statutory fees to the affected school district and adherence to the policies contained in the CPU would reduce impacts related to the provision of new educational facilities to less than significant. In addition, any new schools that would be built within the CPU would be subject to environmental review by the individual school districts in accordance with the provisions of CEQA. Therefore, impacts associated with the construction of future school facilities would be less than significant.

d. Parks and Recreation

As discussed under existing conditions, there are currently 2,624 acres combined of parkland and open space (54 and 2,570 acres, respectively) within the CPU area. The demand for park and recreation opportunities will continue to grow as the population within the CPU area increases. Population-based park requirements for the community are calculated based on community plan densities and General Plan standards. The General Plan park standard is to provide a minimum of 2.8 usable acres of population-based parks per 1,000 residents (see the General Plan, Table RE-2, "Park Guidelines"). The General Plan also establishes population-based minimum guidelines for recreation centers (1 per 25,000 residents) and aquatic complexes (1 per 50,000 residents). In addition, the General Plan allows for the use of park equivalencies to help meet population-based requirements by providing upgrades, amenities, and recreation facilities where development of usable areas for active recreational purposes is limited. The projected population for the CPU at buildout is 67,035 residents.

According to General Plan Guidelines, Table 5.13-7 illustrates the parks and recreation needs of the project area at buildout of the CPU.

TABLE 5.13-7
CPU PARK ACREAGE NEEDS AT BUILDOUT

Planning District	Total Units	Total Population	Park Acres*
Northwest Area	7,648	27,908	51**
Southwest Village	5,880	21,028	59
Central Village	5,246	18,099	51
TOTAL	18,774	67,035	161

SOURCE: City of San Diego 2011a.
*Based on the City's General Plan Guidelines of 2.8 acres of population based parks per 1,000 residents.
**Park standards governed by previously adopted Precise Plans.

It is the intent of the CPU to provide park and recreation services within the community. Under the CPU, approximately 2,748 acres are designated for parks and open space. Of this, 161 acres are designated for population-based parks consistent with the General Plan guideline; the remaining 2,587 acres would consist of open space. As stated in the General Plan, community parks may be provided in the form of major parks or community parks; and neighborhood parks may be provided in the form of neighborhood parks, mini parks, pocket parks or plazas. As shown on Figure 5.13-1, multiple neighborhood parks and a joint-use area are planned within the CPU area, with Pacific Breezes Community Park, Beyer Community Park, and Grand Park sited to equitably serve the community, as described below (City of San Diego 2011a).

As of 2011, there is approximately 51 acres of parkland within the Northwest District, or 1.8 acres per 1,000 residents, as stipulated in the previously approved precise plans that

govern development in these areas. In addition, the 5-acre Ocean View Hills joint use area contributes to the population-based park requirements in this area.

The remaining 110 acres, or 2.8 acres per 1,000 residents, would be provided in the Southwest and Central Village areas. Of these 110 acres, a minimum of approximately 21 acres (13 acres per 25,000 residents) of community parks would be provided; the remaining acreage would be in the form of neighborhood parks. Some neighborhood park acreage has been allocated to Grand Park (described below).

Within the Southwest District, including the Southwest Village, approximately 53.5 acres of population-based parkland would be provided, including one shared community park and multiple neighborhood parks. In addition, this District would benefit from Beyer Community Park located in, and shared with, the San Ysidro community planning area. While specific siting has not yet been determined, it is anticipated that several of the parks would be located adjacent to Spring Canyon to enhance public views and provide staging areas for canyon trails. In addition, a portion of the required parkland would be allocated to the Grand Park located in the Central Corridor District (City of San Diego 2011a).

The Central District, including the Central Village, contains Grand Park and would be adjacent to open space and developed parks. As identified in the CPU, the Central Village would contain multiple neighborhood parks, some adjacent to schools. In addition, a portion of Beyer's Community Park acreage and some of the required neighborhood park acreage would be allocated to Grand Park (City of San Diego 2011a).

Grand Park, an approximately 36-acre community park, is planned in the center of the community along Airway Road. It is envisioned as a link between villages and surrounding employment centers and educational institutions to enhance the connectivity of the Airway Road transit corridor. Grand Park would provide a major community recreation destination for residents and workers and would include baseball, softball, and soccer areas, a recreation center, and an aquatics center as well as a venue for sports tournaments, running/walking races, youth events, and cultural festivals. The consolidation of required park acreage from the Southwest District and Central District into Grand Park would provide a central venue that would be served by transit and appropriately designed to address potential traffic, noise and lighting impacts associated with large-scale facilities.

In addition to the General Plan "Park Planning Policies" previously discussed, the CPU includes several policies related to the provision of parkland open space. These numerous goals and policies were designed to help ensure that the City maintains existing parks and park facilities as well as to provide additional parkland to serve the growing population. Specifically, implementation of Policy 2.5-4 aims to "identify and provide population-based parks per the General Plan standards at locations that are

accessible and centrally located to most users within the Southwest and Central Villages." In addition, Recreation Element Policies 7.1-1 through 7.1-15 address the provision of parkland within the community. Specifically, implementation of these policies would ensure that park needs are assessed as the community continues to grow and ensure that parks are sited equitably and provide usable acreage of parkland required to meet General Plan population-based park standards. Recreation Element Policies 7.2-1 through 7.2-6 address open space lands and resource-based parks. These policies focus on balancing the goals to preserve MHPA and open space areas with efforts to provide recreation (i.e., biking and hiking trails), while minimizing the alterations of the natural environment.

In conclusion, the CPU would result in the need for and/or provision of new or physically altered public facilities, the construction of which could result in potentially significant environmental impacts. In order to provide a minimum of 2.8 usable acres of population-based parks per 1,000 residents, new parks, or equivalencies, would be required in the CPU area through buildout. The construction of new neighborhood and community park facilities (including Grand Park, Pacific Breezes, and Beyer Community Park) is specifically contemplated by the current PFFP for the CPU, and it is reasonable to assume that these facilities would be constructed in the future. The funding of recreational facilities is an implementation policy in the General Plan. If new parkland or recreational facilities are required as part of a development project, potential environmental effects would be analyzed on a case-by-case basis to ensure that population-based parks are provided for, either through development of park and recreation facilities or payment of the DIF. If new parkland or recreational facilities are proposed as part of a development project, potential environmental effects would be analyzed at that time. Based on these considerations, at the program level of analysis, impacts related to the construction of new parkland or recreational facilities would be less than significant.

e. Libraries

As discussed above, the existing Otay Mesa-Nestor Library serves the needs for both the Otay Mesa-Nestor and the Otay Mesa communities. In addition, the San Ysidro Library, located outside the planning area, is also available for the residents of the Otay Mesa community. The CPU states that as the Otay Mesa community further develops, a library facility would be provided within the community (City of San Diego 2011a). Specifically, implementation of Policy 6.6-4 would "provide a library within the community planning area that meets community needs, and that would adapt to technological changes, enhance library services, and expand access to digital information and the internet."

The specific location of a library within the CPU area has not yet been determined, but the funding of this new facility is an implementation policy in the General Plan. Construction of the new library would be subject to separate environmental review at the

time that design plans are available. Therefore, based on these considerations, at the program level of analysis, impacts related to the construction of new library facilities would be less than significant.

5.13.3.2 Significance of Impacts

Buildout of the proposed CPU would increase demand for all public services—including fire and police protection, schools, parks and recreation, and libraries—which would in turn result in the need for new public facilities. The construction and operation of these facilities would occur within the footprint of the CPU area (although a future library site has not yet been identified). These facilities would be subject to numerous development regulations within the City, including policies within the General Plan and CPU and subject to environmental review as design plans are available. The individual school districts are responsible for planning, siting, building, and operating schools in their responsible districts within the CPU area.

a. Fire Protection Services

Buildout of the proposed CPU would increase demand for fire protection services and would contribute to the need for new or altered facilities. The planned construction of Fire Station No. 49, in addition to the collocated facility, is specifically indicated in the proposed CPU, and it is reasonable to assume that these facilities would be constructed in the future. The construction of these facilities would take place within the development footprint of the proposed CPU and would be subject to separate environmental review at the time design plans are available. Therefore, at this program-level of analysis, impacts related to the construction of fire protection facilities would be less than significant.

b. Police Protection Services

Buildout of the proposed CPU would result in additional demand for police service in Beat 713. Currently, the average response times for Beat 713 exceed both the citywide average and police department goals for Emergency, Priority One, and Priority Two calls. Police response times would continue to increase with the buildout of community plans and the increase of traffic generated by new growth. A 10,000-square-foot collocated police/fire-rescue facility is contemplated by the PFFP for the proposed CPU. It is reasonable to assume that this facility would be constructed in the future in order to meet acceptable service levels. The construction of this facility would take place within the development footprint of the CPU and would be subject to separate environmental review at the time design plans are available. Therefore, at this program-level of analysis, impacts related to the construction of new fire facilities would be less than significant.

c. Schools

As stated above, buildout of the proposed CPU would place additional demands on school services and additional facilities would be required to meet the needs of the CPU buildout. The construction of these facilities would take place within the development footprint of the CPU and would be subject to separate environmental review at the time design plans are available. SB 50 limits the mitigation that would be required to the scope of the review of any future project's impacts to schools, and the findings for school impacts. Payment of the statutory fee by future projects consistent with CPU would mitigate the impact because of the provision that the statutory fees constitute full and complete mitigation.

d. Parks and Recreation

New parks would be required in the CPU area, in order to meet the increased demand associated with buildout of the proposed CPU. Under the CPU, approximately 2,909 acres would be designated for parks and open space. Of this, 161 acres are designated for population-based parks consistent with the General Plan guideline; this figure combines the existing 51 acres in the northwest district, which was calculated based on previously adopted Precise Plans, with 110 acres (2.8 per 1,000) for the other districts within the CPU. The CPU also stipulates that of the 110 acres, 21 acres would be in the form of a community park and the remainder as neighborhood parks.

The remaining 2,748 acres would consist of open space. The construction of additional park facilities is specifically indicated in the PFFP for the CPU; and it is reasonable to assume that these facilities would be constructed in the future. The construction of these facilities would take place within the development footprint of the CPU and would be subject to separate environmental review at the time design plans are available. Therefore, at this program-level of analysis, impacts related to the construction of new park and recreation facilities within the CPU area would be less than significant.

e. Libraries

The CPU has identified the need for an additional library facility to serve the project area upon buildout of the proposed project CPU. Although the specific location of a library has not yet been determined, the construction of a new facility is specifically contemplated by the current PFFP for the CPU, and it is reasonable to assume that this facility would be constructed in the future. The construction of this facility would take place within the development footprint of the CPU and would be subject to separate environmental review at the time design plans are available. Therefore, at this program-level of analysis, impacts related to the construction of a new library within the CPU area would be less than significant.

5.13.3.3 Mitigation Framework

Impacts associated with fire, police services, schools, parkland, and libraries would be less than significant; therefore, no mitigation is required.

5.13.3.4 Significance after Mitigation

Impacts associated with fire, police services, schools, parkland, and libraries would be less than significant; therefore, no mitigation is required.

5.14 Utilities

Utility services addressed in this PEIR include water, wastewater, reclaimed water, solid waste, storm water drainage, and communication systems. Utility providers include a variety of City, special district, quasi-public agencies, and private companies. The following discussion is focused on environmental impacts resulting from the need for new or alteration to existing utilities due to project implementation.

Water, sewer, and reclaimed water discussions herein are based on the Technical Infrastructure Study (2011) prepared by Atkins and included as Appendix L to this PEIR. The purpose of the Technical Infrastructure Study is to provide a summary of wet utility requirements (water, sewer, recycled water) for the CPU, as compared to the buildout of existing land use plans (Otay Mesa Community Plan 1981) to determine what additional infrastructure would be required to support the proposed changes in land use. Water supply to the CPU area is addressed separately within Section 5.15. A separate discussion of energy services and conservation is provided in Section 5.9, Energy Conservation.

5.14.1 Existing Conditions

5.14.1.1 Water Systems

There are two water service providers in the CPU area: City of San Diego PUD and the Otay Water District (OWD). In general, the City provides water service to the western portion of the CPU area and OWD to the eastern portion, generally east of Heritage Road. Both agencies are members of the SDCWA, which imports both potable and raw (untreated) water to the San Diego region via the Second San Diego County Aqueduct.

a. City of San Diego PUD

The City purchased the water supply system in 1901, and through continual expansion, provides water service to more than 1.3 million residents over 404 square miles of developed land in the south central portion of San Diego County. The City's PUD purchases up to 90 percent of its water from the SDCWA, which in turn purchases most of its water from the Metropolitan Water District (MWD). Water supply is discussed in detail in Section 5.15 of this PEIR.

The City's water system consists primarily of nine raw water storage facilities with over 408,000 acre-feet (AF) of storage capacity, 3 water treatment plants, 31 treated water storage facilities, and more than 3,213 miles of transmission and distribution lines. The local surface raw water storage facilities are connected directly or indirectly to the City's water treatment operations, Otay Water Treatment Plant, Alvarado Water Treatment

Plant, and Miramar Water Treatment Plant. These three plants have a total capacity of 294.4 mgd.

From SDCWA, water is delivered to the City's Lower Otay Reservoir via Pipeline 3 and is treated by the 40 mgd Otay Water Treatment Plant. From the treatment plant, water is conveyed via two pipelines to the South San Diego Reservoir. The 15-million-gallon South San Diego Reservoir feeds three pipelines, including the South San Diego Pipelines 1 and 2 that provide water to the South San Diego and Otay Mesa areas. The South San Diego Pipelines connect to the Otay Mesa Pump Station (10.8 mgd) located off Otay Valley Road. This pump station provides service to Otay Mesa 680 Pressure Zone (Brown Field) and connects to the Ocean View Hills and Princess Park pump stations.

The Ocean View Hills and Princess Park pump stations were designed based on the South San Diego-Otay Mesa Water Study (1999). This study estimated the future water demand of 12.68 mgd based on projected land uses. Per the study, the Ocean View Hills pump station was designed to provide 2.8 mgd for the Ocean View Hills community. The Princess Park pump station was designed to provide 0.5 mgd.

b. Otay Water District

The OWD receives water from Pipeline 4 at Flow Control Facility 13. Water from this facility is stored in Reservoir 571-1 that has a capacity of 36.7 million gallons. The 870-1 roll pump station (19.2 mgd capacity) pumps water through two 30-inch mains to Reservoir 870-1. From this 11-million-gallon reservoir, water is transported through a 30-inch main in Alta Road to the Otay Mesa pipeline network ranging from 8 to 30 inches. The eastern portion of the CPU area is serviced by the 870 Pressure Zone.

5.14.1.2 Wastewater

The City PUD is responsible for wastewater service within the CPU area. Wastewater service to the CPU area is currently provided through the Otay Mesa sewer collection system via the Otay Mesa Trunk Sewer (OMTS), the Otay Valley Trunk Sewer (OVTS) system, and Metropolitan Sewerage System (Metro). The Metro facilities include the San Ysidro Interceptor, the South Metro Interceptor, and the City's wastewater treatment facilities. The OMTS has been planned for expansion to accommodate growth in the CPU area.

a. Otay Mesa Sewer Collection System

The wastewater from the eastern portion of the Otay Mesa Drainage Basin is currently collected via sewer pipelines ranging from 6 to 33 inches and conveyed to a 30-inch main in Siempre Viva Road. This flow, which averaged 1.2 mgd wet weather flows in 2009, is directed to pump station 23T. Pump station 23T has a capacity of 9 mgd and

pumps water through pipes in Cactus and Heritage roads to the 30-inch OVTS. The 7.3-mile-long OVTS conveys flows from Heritage Road, along Otay Valley Road, to I-805, along local roads to the South Metro Receptor. The OVTS bottleneck in Heritage Road has a capacity of 4.3 mgd and is nearing capacity.

Otay Mesa Trunk Sewer

In 2004, the OMTS Master Plan and Alignment Study was adopted by the City Council. Subsequently, the OMTS Refinement and Phasing Report prepared in 2009 recommended several sewer system upgrades in the Otay Mesa sewer basin to resolve capacity constraints in the near-term due to contracted capacity and to meet flows through year 2030. Per this report, the identified sewer improvements would enhance pumping and conveyance capabilities from the City's Otay Mesa sewer pump station 23T to the existing San Ysidro Trunk Sewer. Completion of the proposed upgrades would substantially complete the OMTS system and relieve the capacity issues in the Otay Valley.

The OMTS has been partially constructed to relieve the OVTS capacity. Currently the OMTS includes the 27- and 30-inch gravity sewer in Siempre Viva Road that is pumped to the OVTS on an interim basis via pump station 23T. In addition, a 42-inch gravity sewer in Old Otay Mesa Road connects to a 10-inch main in Old Otay Mesa Road on an interim basis. SR-905 includes pipeline sleeves at Cactus Road to allow for future upgrades of this system.

b. Otay Valley Trunk Sewer System

The existing 27-inch OVTS conveys wastewater from the Otay Valley drainage basin from as far east as the Donovan Correctional Facility, west to the City's Metro System. This trunk sewer also temporarily conveys the wastewater generated in east Otay Mesa via Sewer pump stations 23T and 48T. The eastern portions of the OVTS were constructed and funded under reimbursement agreements with the City, and is operated and maintained by the City's PUD. The 7.3-mile-long gravity main extends from Heritage Road, east along Otay Valley Road to I-805 and within existing roads north of the Otay River between I-805 and the South Metro Interceptor.

c. Metro Facilities

The Metro system includes the San Ysidro Interceptor, South Metro Interceptor, and City's wastewater treatment facility. The OMTS in Old Otay Mesa Road within the western portion of the CPU discharge into the 30- to 42-inch San Ysidro Interceptor. The Grove Avenue pump station is located along this interceptor and redirects "skimmed flow" to the South Bay Water Reclamation Plant (SBWRP) via a 30-inch force main. The SBWRP can treat 15 mgd to a tertiary level for reuse, but treats 8 mgd on average. Excess water is released via the South Bay Land and Ocean Outfall.

The South Metro Interceptor collects wastewater from the OVTS and San Ysidro Interceptor in addition to several City of Chula Vista trunk sewers. The South Metro Interceptor conveys these flows to the Point Loma Water Treatment Plant via the Metro pump station 2. The Point Loma Water Treatment Plant treats water to a primary level and discharges via a deep ocean outfall. This treatment plant has a capacity of 190 mgd and is currently being expanded to 240 mgd.

5.14.1.3 Reclaimed Water

OWD serves some customers with recycled water from the Ralph W. Chapman Water Reclamation Facility and from the City's South Bay Water Recycling Plant. There are, however, no recycled water distribution lines currently extending to the CPU area.

5.14.1.4 Solid Waste

The City provides refuse, recycling, and yard waste collection and disposal services to some residents under the People's Ordinance (Municipal Code Section 66.0127), which was adopted in 1919 by the residents of San Diego. The City provides solid waste collection services to primarily single-family homes, and some multi-family; this service is paid for by the General Fund. Most multi-family residences are not served and are required to fund and contract directly with private haulers for trash and recycling collection.

Solid waste generated in the City is primarily taken to three landfills; either the City's Miramar Landfill, located north of SR-52; the Sycamore Sanitary Landfill, located within the City of San Diego east of I-15 and operated by Republic Services; or the Otay Landfill, located within Chula Vista, north of I-905 and also operated by Republic Services. Based on current and projected disposal rates, and permitted disposal limits, the San Diego region is anticipated to exceed the ability of existing landfills to accept waste within the next 10 years unless landfill expansions are approved.

The Miramar Landfill is permitted to receive 8,000 tons per day, and on average, it receives less than 1,000,000 tons per year. The anticipated closure date for the landfill is 2022. The Sycamore Landfill is permitted to receive a maximum of 3,965 tons per day, although the permit and the facility franchise are inconsistent. The owner/operator is currently proposing a significant increase in throughput, together with a major expansion of the height and footprint of the facility.

The Sycamore Landfill, based on a 3,965-ton-per-day limit, is expected to operate until 2031. The Sycamore Landfill Master Plan proposes to increase the landfill capacity to 157 million cubic yards, which would allow an increase from 3,965 tons per day to approximately 11,450 tons per day. With the proposed expansion, the landfill would be

operational until approximately 2050. This increase in landfill capacity is not currently approved or permitted, and therefore cannot be guaranteed to be completed at this time.

The Otay Landfill is permitted to receive 5,830 tons per day. Permits were recently modified, which reduced the overall height of the landfill with no loss of capacity. The Otay Landfill is expected to serve the region through 2021 (California Department of Resources Recycling and Recovery [CalRecycle] 2012). Currently, most single-family residential waste generated in the southern portion of the City, which includes the CPU area, is disposed at Otay Landfill. Waste collected from multi-family residential and commercial areas is disposed at area landfills as determined by the agreements of franchise haulers.

5.14.1.5 Storm Water Infrastructure

The City maintains drainage and conveyance systems to protect the beneficial uses of the San Diego Basin. In addition to flood control channels and detention basins, storm drain pipelines are in place for the conveyance of urban runoff and storm water.

Existing drainage and storm water conveyance facilities have been constructed throughout Otay Mesa in compliance with regulations according to the needs of private development projects. Existing storm drain facilities have been constructed for industrial uses distributed throughout the central and eastern portions of the CPU area. Although not included in the hydrology study performed for the CPU, storm drains are also present in existing residential neighborhoods in the northwest portion of the CPU area. Other existing storm drain facilities, such as those for San Ysidro High School in the western part of the CPU area, occur as needed throughout the CPU area in the immediate vicinity of development, to connect to existing channels.

5.14.1.6 Communications

Communications systems for telephone, computers, and cable television are serviced by utility providers such as AT&T, IBM, Cox, and other independent cable companies. Facilities are located above and below ground within private easements. In recent years, the City has initiated programs to promote economic development through the development of high-tech infrastructure and integrated information systems. The City also works with service providers to underground overhead wires, cables, conductors, and other overhead structures associated with communication systems in residential areas in accordance with proposed development projects.

5.14.2 Existing Regulatory Framework

The City's General Plan, Public Facilities, Services and Safety Element, presents goals and policies for water infrastructure, to assure the provision of safe, efficient, and sustainable distribution of water. Relevant policies are stated in Table 5.14-1, below.

TABLE 5.14-1
PUBLIC FACILITIES ELEMENT POLICIES RELATED TO UTILITIES

Policy	Description
PF-H.2	Require the provision and maintenance of essential water storage, treatment, supply facilities and infrastructure to serve existing and future development.
PF-H.3	Coordinate land use planning and water infrastructure planning with local, state, and regional agencies to provide for future development.
PF-F.5	Construct and maintain facilities to accommodate regional growth projections that are consistent with sustainable development policies.
PF-F.6	Coordinate land use planning and wastewater infrastructure planning to provide for future development and maintain adequate service levels.
PF-H.1.e	Continue to develop the recycled water customer base, and expand the distribution system to meet current and future demands.
PF-I.2	Maximize waste reduction and diversion
PF-I.3	Provide environmentally sound waste disposal facilities and alternatives.
PF-I.3.f	Cooperate on a regional basis with local governments, state agencies, and private solid waste companies to find the best practicable, environmentally safe, and equitable solutions to solid and hazardous waste management.
PF I.5	Plan for sufficient waste handling and disposal capacity to meet existing and future needs. Evaluate existing waste disposal facilities for potential expansion of sites for new disposal facilities.
PF-G.1	Ensure that all storm water conveyance systems, structures, and maintenance practices are consistent with federal Clean Water Act and California Regional Water Quality Control Board NPDES Permit standards.
PF-G.4	Develop and employ a strategic plan for the City's watersheds to foster a comprehensive approach to storm water infrastructure improvements.

SOURCE: City of San Diego General Plan 2008.

5.14.2.1 Water

a. Otay Water District 2010 Water Resources Master Plan

The OWD Water Resources Master Plan (WRMP) outlines a comprehensive program for the orderly and phased development of potable and recycled water supply, storage, transmission, and distribution through ultimate buildout of the land within the OWD, according to local land use approvals and planning. The projects in the WRMP consist mostly of pipelines, reservoirs, and pump stations that are needed based on population projections, OWD criteria for the adequacy of facilities, and specific project development

plans in the OWD's service area. The OWD water model was updated in November 2010 as part of the 2010 WRMP Update to include increased potable water demands from the CPU. The WRMP Update determined that the increased potable water demands associated with the CPU would not warrant transmission main upgrades above those previously identified for the forecasted growth in the area.

The 2010 WRMP Update was also revised to include increased recycled water supply, storage and pumping conditions. No additional improvements, beyond those recommended in the 2008 WRMP, were identified.

b. City of San Diego

The City developed a Long-Range Water Resources Plan (2002–2030) in order to address the projected need for additional water supplies. This plan detailed existing water supplies, new water supply opportunities, objectives and performance measures, and ultimately conclusions and recommendations. Currently, the City is in the process of finalizing the 2012 Long-Range Water Resources Plan that reviewed and re-assessed the planning objectives and stakeholder values, discussed and evaluated emerging issues using the most recent information available to update the long-term water resources strategy for the City.

In June 2011, the City issued a draft 2010 Urban Water Management Plan (UWMP) which addresses the City's water system, water supply sources, historic and projected water use, and provides a comparison of water supply to water demands during average, single-dry, and multiple-dry year periods. The UWMP was prepared in accordance with the Urban Water Management Act (as amended, California Water Code, Sections 10610 through 10656), which requires every urban water supplier that provides water for municipal purposes to more than 3,000 connections or supplying more than 3,000 acre-feet of water annually, to adopt and submit a plan every five years to the California Department of Water Resources.

5.14.2.2 Solid Waste/Recycling

a. Collection Services

The City provides refuse, recycling, and yard waste collection and disposal services to some residents under the People's Ordinance (Municipal Code Section 66.0127). The City provides solid waste collection services to primarily single-family homes, and some multi-family units; this service is paid for by the General Fund.

b. Diversion and Recycling

In an effort to address landfill capacity and solid waste concerns, the California Legislature passed the Integrated Waste Management Act in 1989 (AB 939), which

mandated that all cities reduce waste disposed in landfills from generators within their borders by 50 percent by the year 2000. In response, the City Environmental Services Department (ESD) developed the Source Reduction and Recycling program that outlined waste management policies and programs to meet the City's long-term disposal needs and achieve the mandated waste reduction. Since 2004, the City has diverted more than 50 percent of its generated waste stream from disposal.

The State then enacted AB 341 in 2011, which established a policy goal for California that not less than 75 percent of solid waste that is generated be source-reduced, recycled, or composted by 2020. A report was prepared and issued in May 2012, detailing strategies to achieve this goal primarily through recycling.

The City has three ordinances that detail mandated waste diversion or recycling requirements for development activities, detailed below. In addition, pursuant to the City's Significance Determination Thresholds, any discretionary project that may generate approximately 60 tons of waste or more during construction and/or operation is required to prepare a project-specific Waste Management Plan (WMP) to address disposal of waste generated during short-term project construction and long-term post-construction operation. The WMP is required to identify how the project would reduce waste and achieve target reduction goals and must include: projected waste generation calculations and identification of the types of waste materials generated; description of how materials would be reused on-site; identification of source separation techniques for recycling; and identification of recycling facilities where waste would be taken if not reused on-site.

Storage Ordinance

Enacted in 2000, the Storage Ordinance (Section 142.0810 *et. seq.* of the Municipal Code) outlines standards to ensure that new residential and commercial development provide permanent, adequate, and convenient space for the storage and collection of refuse and recyclable material. The intent of the ordinance is to encourage recycling of solid waste to reduce the amount of waste material entering landfills and to meet the recycling goals established by the City Council and mandated by the state of California. This storage ordinance applies to the following type of developments: residential development involving two or more dwelling units, new non-residential development, and additions to existing developments where the gross floor area would be increased by 30 percent or more.

Recycling Ordinance

The City adopted the Recycling Ordinance (Section 66.0701 et seq. of the Municipal Code) in November 2007, and phased implementation of the ordinance over the next two years. In July 2012, the City updated the Recycling Ordinance to lower the exemption threshold for required recycling, thereby requiring all privately serviced

businesses, commercial/institutional facilities, apartments, and condominiums generating four or more cubic yards of trash per week to recycle. The purpose of the Recycling Ordinance was to establish requirements for recycling of recyclable materials generated from the aforementioned facilities and special events. The ordinance also requires the education of tenants or occupants on waste reduction or recycling. These requirements are intended to increase the diversion of recyclable materials from landfill disposal, conserve the capacity, and extend the useful life of the Miramar Landfill, and reduce greenhouse gas emissions.

Construction and Demolition Debris Recycling Ordinance

The City's Construction and Demolition Debris Recycling Ordinance (C&D Ordinance) (Section 66.0601, et seq. of the Municipal Code) is intended to increase the diversion of construction and demolition debris from landfill disposal, conserve the capacity, and extend the useful life of the Miramar Landfill. This ordinance requires applicants for a demolition or construction permit to estimate the volume of waste they will generate and post a deposit. The deposit is refunded after it is proven that a minimum of 50 percent of the construction and demolition debris generated by the development was recycled at an appropriate recycling or transfer facility.

5.14.2.3 Communications

a. San Diego Municipal Code Section 144.0240

Individual projects consisting of more than four lots are subject to Section 144.0240 of the Municipal Code, which requires privately owned utility systems and service facilities to be placed underground.

5.14.3 Significance Determination Thresholds

Based on the City's Significance Thresholds, impacts related to public utilities would be significant if the CPU would:

1. Result in a need for new systems, or require substantial alterations to existing utilities, including water, wastewater, reclaimed water, solid waste disposal, storm water infrastructure, and communication systems.

5.14.4 Issue 1: Utilities

Would the CPU result in a need for new systems, or require substantial alternations to existing utilities? These systems include water, wastewater, reclaimed water, solid waste disposal, storm water infrastructure, and communication systems.

5.14.4.1 Impacts

The CPU would allow for additional residential, commercial, international business and trade, industrial, institutional, parks and open space, and right-of-way uses. As a programmatic document, this PEIR evaluates a worst-case scenario and also assumes that designated open space would remain entirely undeveloped. To project water/recycled water demands and sewer flows from new development, several types of planning criteria are typically defined: land use density criteria (dwelling units per acre), employment density criteria (employees per acre); population criteria (persons per dwelling unit); and unit flow generation criteria (gallons per person per day otherwise known as gallons per capita per day). Because the CPU does not exactly match the land use categories defined by the PUD or OWD criteria, a methodology for applying these criteria was developed in the Technical Infrastructure Study (Appendix L of the PEIR). Details of the planning criteria, which identify a uniform way to analyze the CPU across the two service providers, are located in Section 4.0 of the Technical Infrastructure Study (Appendix L of the PEIR).

The following is an analysis of the impacts for each applicable utility.

a. Water

As previously detailed, the CPU area would be served by the City's PUD and the OWD. The City PUD's Otay Mesa service area was evaluated and reviewed in the Otay Mesa Master Plan Optimization Baseline Report (City's Baseline Report, as referenced in Appendix L). The City's Baseline Report recommended the following backbone infrastructure improvements to the City's PUD system (Figure 5.14-1):

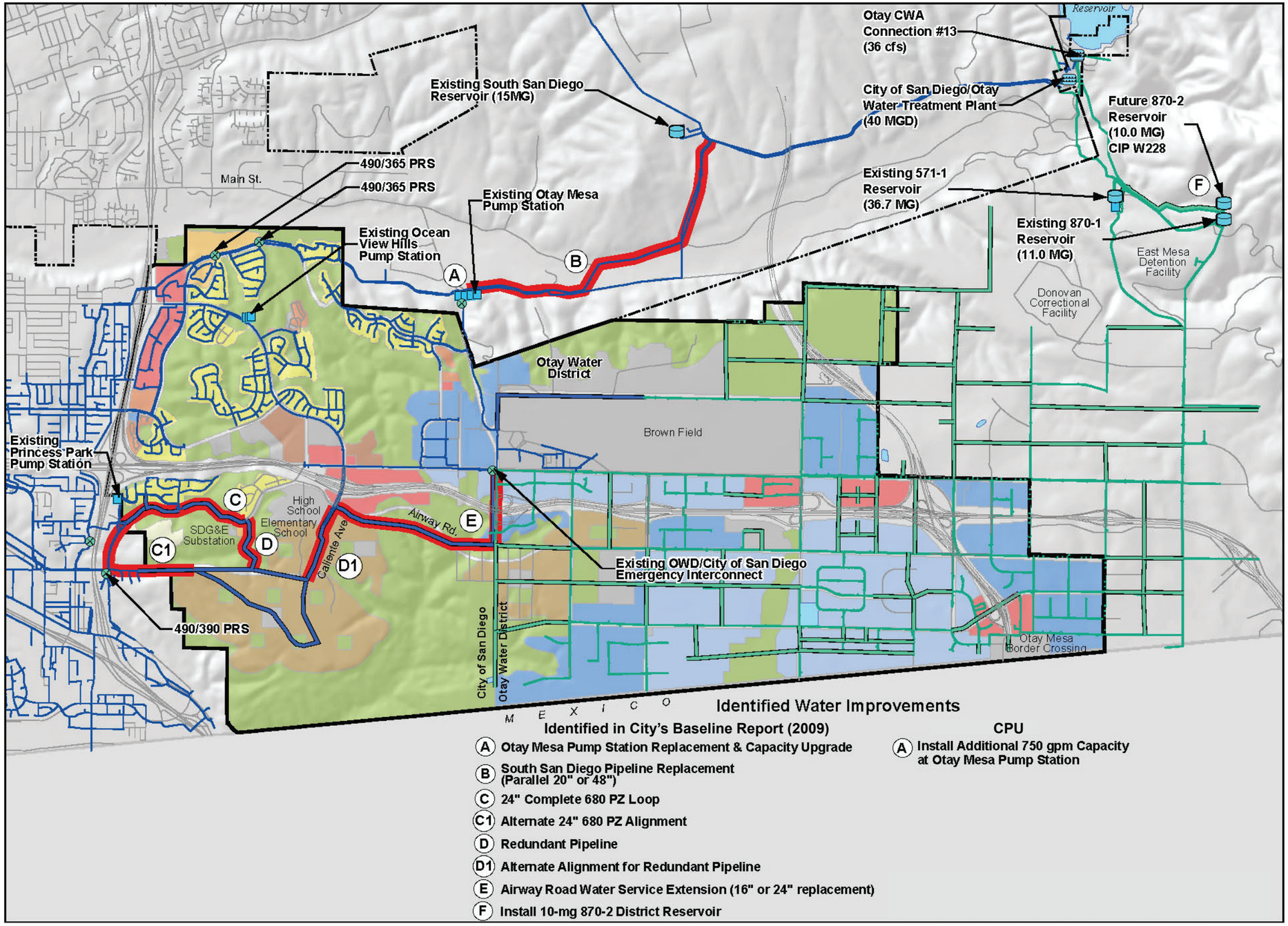
A. Upgrade the Otay Mesa pump station to 11,500 gallons per minute (gpm) to meet ultimate demands. Additional capacity may also be installed at Ocean View Hills and Princess Park pump stations to meet demands, or an additional 1,000 gpm pumping capacity may be added to the Otay Mesa pump station.

B. Install 12,380 feet of new 20-inch pipe between the South San Diego Reservoir and the Otay Mesa pump station or replace the 33-inch South San Diego Pipeline 1 with a new 48-inch pipe for redundancy.

C. Install 2,400 feet of new 24-inch pipe in Otay Mesa Road between Hawken Drive and Crescent Bay Drive to provide redundancy in Otay Mesa and allow the Princess Park pump station to supply the 680 pumping zone.

The improvements identified are in response to projected growth within the PUD's Otay Mesa service area as a whole and not specific to the increase in potable water demand from the CPU.

Map Source: Atkins



Identified Water Improvements

Identified in City's Baseline Report (2009)

- (A) Otay Mesa Pump Station Replacement & Capacity Upgrade
- (B) South San Diego Pipeline Replacement (Parallel 20" or 48")
- (C) 24" Complete 680 PZ Loop
- (C1) Alternate 24" 680 PZ Alignment
- (D) Redundant Pipeline
- (D1) Alternate Alignment for Redundant Pipeline
- (E) Airway Road Water Service Extension (16" or 24" replacement)
- (F) Install 10-mg 870-2 District Reservoir

CPU

- (A) Install Additional 750 gpm Capacity at Otay Mesa Pump Station

OMCP Boundary

Existing City Pipe

Existing Otay Pipe

Proposed Pipe

- City of San Diego
- Otay Water District

Identified Improvements

CPU

- BUSINESS AND INTERNATIONAL TRADE
- INDUSTRIAL
- VILLAGE CENTER
- COMMERCIAL
- INSTITUTIONAL
- VERY LOW
- LOW
- LOW MEDIUM
- MEDIUM
- MEDIUM HIGH
- OPEN SPACE & PARKS

Not to Scale

FIGURE 5.14-1

Identified Improvements to the City of San Diego Water System

M:\JOBS2\3957-1\env\graphics\fig5.14-1.ai 03/11/13

THIS PAGE IS INTENTIONALLY BLANK.

The OWD's water system model was updated in October 2008 as part of the 2008 WRMP and again in November 2010, as part of the 2010 WRMP Update. Both the City's Baseline Report and the OWD's 2008 WRMP included water demands based on currently approved land uses.

In the OWD system, the 2008 WRMP did not identify any pumping deficiencies within the CPU area. A 10-million-gallon 870-2 Reservoir was recommended to be constructed to provide capacity for projected ultimate storage requirements. The proposed site for the 870-2 Reservoir is adjacent to the existing 870-1 Reservoir.

The City's Baseline Report did not evaluate demand under implementation of the CPU. The identified impacts and improvements for Otay Mesa detailed above are not capacity-based deficiencies. The CPU would increase potable water demands in the City's service area by only 0.36 mgd, which is not a significant increase to warrant transmission main upgrades. The improvements identified above would be required even if the CPU were not implemented, and thus are considered the minimum required improvements. Adding an additional 750 gpm of pumping capacity at the Otay Mesa pump station would provide sufficient capacity to serve the additional demands under buildout of the CPU.

In the OWD's 2010 WRMP Update, demands for the service area were revised to include potable water demands under implementation the CPU. The 2010 WRMP Update did not identify storage or pumping deficiencies under buildout of the CPU. As new development projects move forward, however, the OWD may require individual projects to submit detailed hydraulic studies.

The improvements identified above from the City's Baseline Report would be required regardless, and are not necessitated by implementation of the CPU. The addition of pumping capacity to the Otay Mesa pump station, which is necessitated by the CPU, would occur at an existing facility and would not result in significant new environmental impacts. The OWD has not identified any infrastructure improvements that are necessitated by implementation of the CPU.

Prior to approval of future projects implemented in accordance with the CPU, the City Director of the Public Utilities Department would determine, based on review of the project application, that future projects are sited and designed to avoid conflicts with existing public utilities in accordance with the CPU and City of San Diego Public Utilities Department Director and/or City Engineer guidance identified below. Future design of projects would be based on the recommendations of an anticipated detailed grade and alignment study that addresses potential conflicts with existing utilities and access road realignments implemented in compliance with Council Policies 400-13 and 400-14. The realignments of utilities or access roads implemented in compliance with Council Policies 400-13 and 400-14 could result in secondary impacts on biological or

archaeological resources. Biological and historical resource impacts are discussed in detail in Sections 5.4 and 5.5 of this PEIR.

Future applicants would be required to coordinate the location of improvements with the Development Services Department or the Director of the Public Utilities Department in compliance with the Sewer Design Guidelines and other utility agencies that require access to the facilities. If feasible, access to the sewer and water facilities would also be coordinated to provide combined access to storm water infrastructure facilities in order to minimize the impact on open space and canyons by having common access. The access would be proposed in a strategic location to facilitate Council Policies 400-13 and 400-14 and in accordance with the City of San Diego Canyon Sewer Cleaning Program & Long-Term Canyon Sewer Maintenance Program PEIR and Master Site Development Permit (when this is applicable within the CPU).

Therefore, impacts associated with water system improvements would be less than significant at the program-level.

b. Wastewater

As detailed in Section 5.14.1.2, the OMTS Master Plan (2004) and subsequent Refinement and Phasing Report (2009) have approved environmental documents that have previously analyzed wastewater system upgrades and their associated environmental impacts in the CPU area. These improvements were based on currently approved land uses.

The 2009 Refinement Report concluded that the following facilities and improvements to the existing collection system would be required (Figure 5.14-2):

A. Upgrade Sewer Pump Station 23T from temporary to permanent status by adding 0.25 million gallons emergency storage and upgrading pumping capacity to 4.3 million mgd (8 mgd at buildout)

B. Upgrade Sewer Pump Station 23T from temporary to permanent status by installing 8,000 feet of 24-inch force main from Sewer Pump Station 23T to Heritage Road

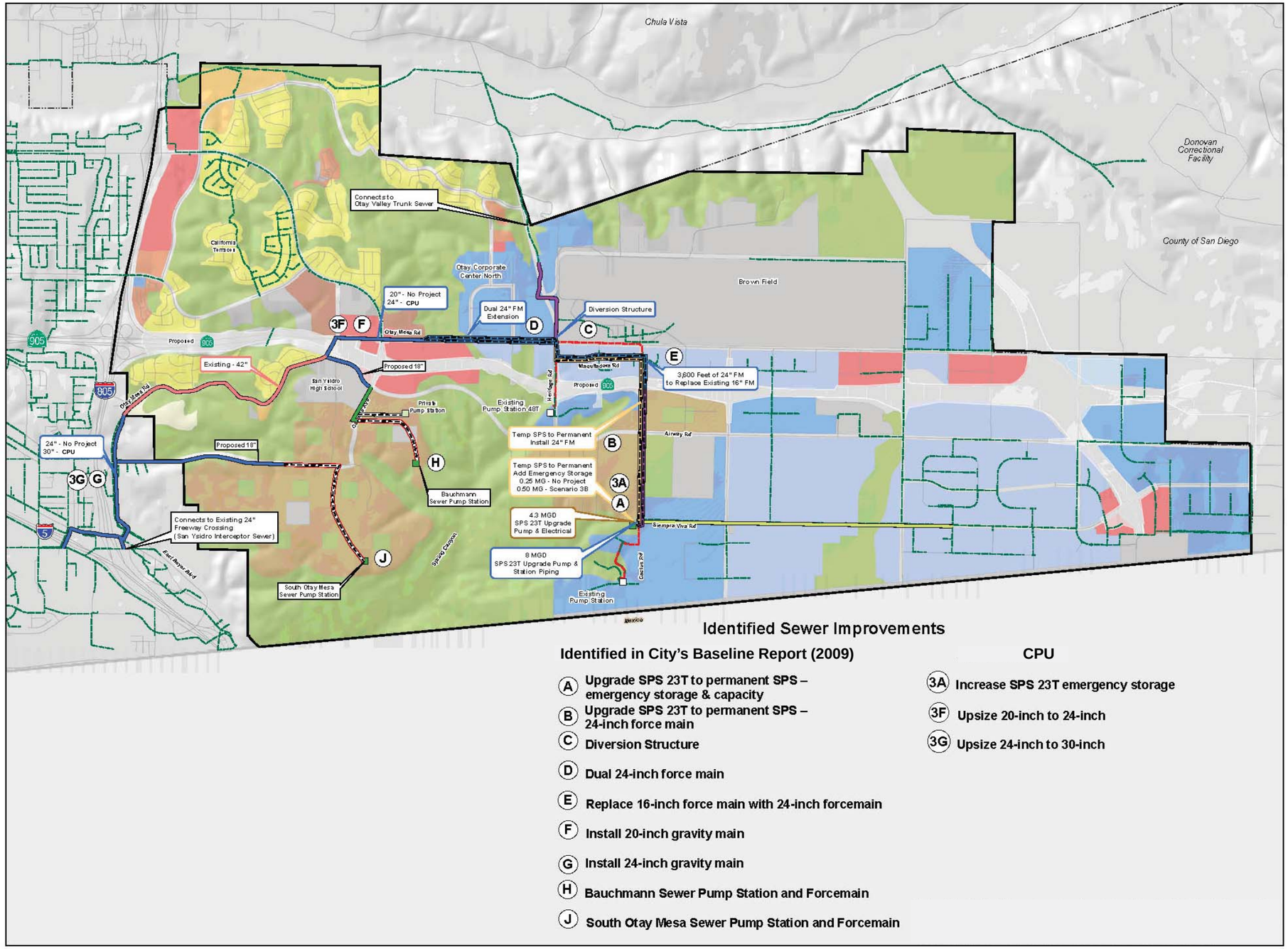
C. Install diversion structure at Otay Mesa Road and Heritage Road to split flows between the OMTS and OVTS.

D. Install 8,000 feet of dual 24-inch force main along Otay Mesa Road from the diversion structure to the gravity sewer located in Otay Mesa Road.

E. Replace 3,600 feet of 16-inch force main with 24-inch force main from SR-905 to the diversion structure.

F. Install 2,800 feet of 20-inch gravity main along Otay Mesa Road from proposed 24-inch dual force main (see, B above) to existing 42-inch gravity main.

Map Source: Atkins



Identified Sewer Improvements

Identified in City's Baseline Report (2009)

- (A) Upgrade SPS 23T to permanent SPS – emergency storage & capacity
- (B) Upgrade SPS 23T to permanent SPS – 24-inch force main
- (C) Diversion Structure
- (D) Dual 24-inch force main
- (E) Replace 16-inch force main with 24-inch forcemain
- (F) Install 20-inch gravity main
- (G) Install 24-inch gravity main
- (H) Bauchmann Sewer Pump Station and Forcemain
- (J) South Otay Mesa Sewer Pump Station and Forcemain

CPU

- (3A) Increase SPS 23T emergency storage
- (3F) Upsize 20-inch to 24-inch
- (3G) Upsize 24-inch to 30-inch

- OMCP Boundary
- Existing Gravity Main
- Existing Force Main

Phase Pipeline

- Existing
- Phase 1
- Phase 2 (SPS)
- Phase 3
- Phase 4 (RES)
- Pumped
- Gravity

- Existing Pump Station
- Private Pump Station
- Proposed Pump Station

CPU

- BUSINESS AND INTERNATIONAL TRADE
- INDUSTRIAL
- VILLAGE CENTER
- COMMERCIAL
- INSTITUTIONAL
- VERY LOW
- LOW
- LOW MEDIUM
- MEDIUM
- MEDIUM HIGH
- OPEN SPACE & PARKS

Not to Scale

M:\JOBS2\3957-1\env\graphics\fig5.14-2.ai 06/14/13

FIGURE 5.14-2

Identified Improvements to the City of San Diego Wastewater System

THIS PAGE IS INTENTIONALLY BLANK.

The improvements identified are in response to projected growth within the Otay Mesa service area as a whole and not specific to the increase in demand from the CPU.

The increased growth from the CPU would increase wastewater flows by 1.33 mgd over buildout of the adopted community plan, for total projected wastewater generation of 9.68 mgd. This increase would trigger the need for the construction of additional sewer infrastructure, including an increase in the sizing of sewer pipelines. Overall, as shown in Figure 5.14-2, infrastructure improvements associated with the buildout of the CPU would include the following:

A. Increase emergency storage at sewer pump station 23T to 0.50 million gallons. The increased flows generated under CPU implementation would not require any additional capacity of sewer pump station 23T beyond 8 mgd.

B. Upsize 20-inch to 24-inch gravity main along Otay Mesa Road from force main to existing 42-inch gravity main.

C. Upsize 24-inch to 30-inch gravity main from existing 42-inch gravity main to existing 24-inch San Ysidro Trunk Sewer.

The 2004 OMTS Sewer Master Plan and 2009 Refinement Report identified these improvements as potentially required in future phases to accommodate wastewater generation associated with buildout of the CPU area. The three additional improvements identified above would occur within existing utility line easements and facilities, and therefore, would not result in significant new impacts to the environment.

As discussed above in Section 5.14.4.1a, for future projects implemented in accordance with the CPU, the City Director of the Public Utilities Department shall determine, based on review of the project application, that future projects are sited and designed to avoid conflicts with existing public utilities. Future applicants shall coordinate the location of improvements with the Development Services Department or the Director of the Public Utilities Department in compliance with the Sewer Design Guidelines and other utility agencies that require access to the facilities.

Therefore, impacts associated with wastewater systems would be considered less than significant at the program-level.

c. Reclaimed Water

Both the City PUD and OWD produce recycled water for use in the southern San Diego area. Currently, the OWD operates a 1.2-mgd reclamation plant and has an agreement to purchase up to 6 mgd of recycled water from the City. The City has the capability of producing up to 15 mgd of recycled water at its South Bay Water Reclamation Facility.

Recycled water service in the CPU area is planned to be provided by the OWD only. The ultimate buildout of the OWD's recycled water system is shown in Figure 5.14-3. The City currently has no specific plans to provide recycled water service to the CPU area; however, the provision of recycled water infrastructure would be a condition of approval for future discretionary projects within the CPU area. Because the City has no current plans to expand their distribution system in this area, recycled water service to the western side of the CPU area would likely require expansion of the OWD's recycled water system; however, no expansion is required or necessitated in conjunction with adoption of the CPU. An agreement between the OWD and the City would have to be negotiated to provide this service.

The OWD's 2008 WRMP included recycled water projections under the adopted community plan, while the 2010 WRMP incorporated projections under the CPU. The OWD's 2008 WRMP evaluated ultimate recycled water supply, storage, and pumping conditions, which would be required even if the CPU were not implemented. The CPU area is within the OWD's 860 pressure zone, which will ultimately be supplied from a new 860-1 reservoir through planned 30-inch diameter transmission mains.

The OWD's 2010 WRMP Update incorporated demands projected under the CPU, and did not identify additional storage or pumping deficiencies beyond improvements recommended in the 2008 WRMP.

The improvements identified above from the OWD's 2008 WRMP would be required regardless and are not necessitated by implementation of the CPU. The OWD has not identified any reclaimed water infrastructure improvements that are necessitated by implementation of the CPU.

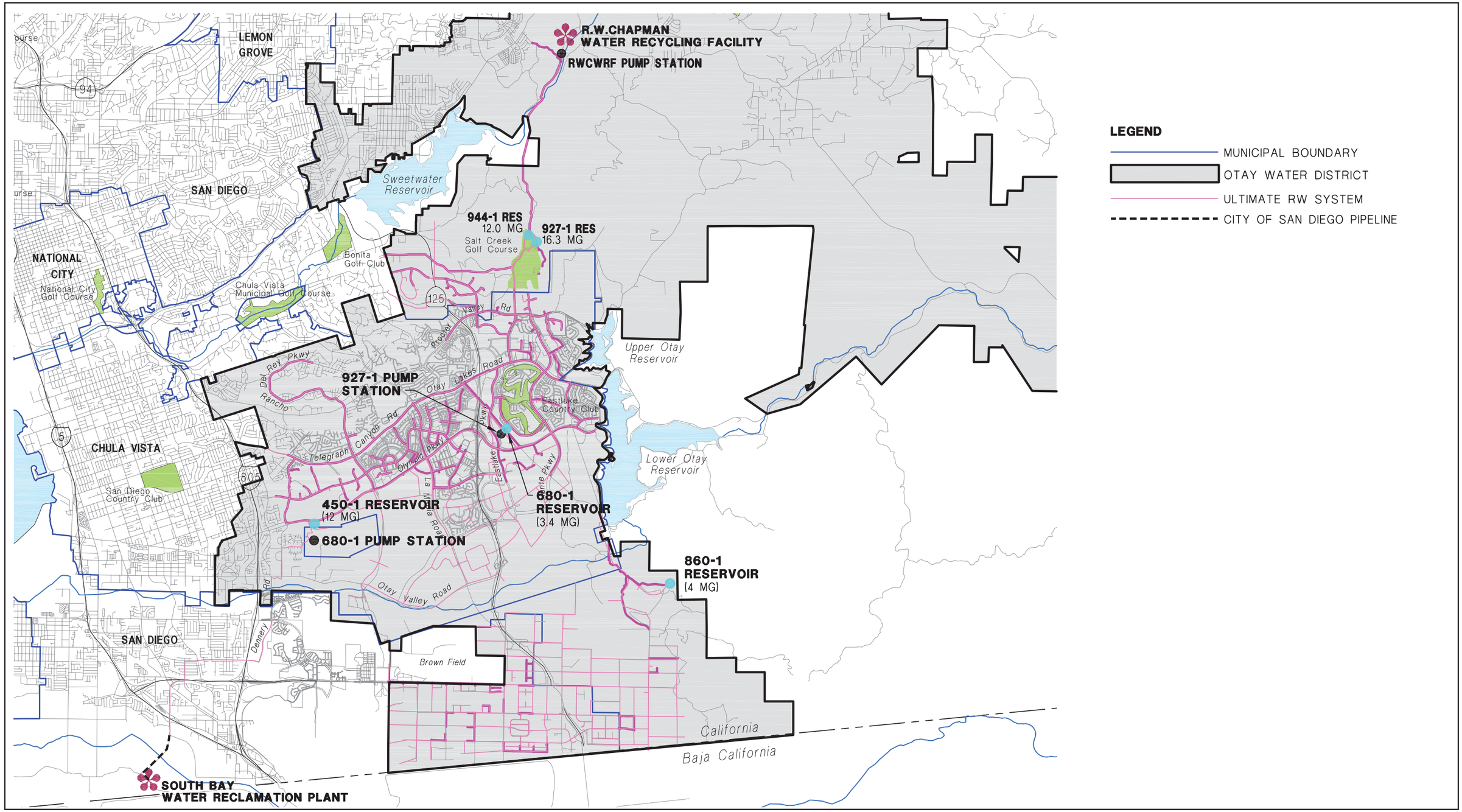
As discussed above in Section 5.14.4.1a, for future projects implemented in accordance with the CPU, the City Director of the Public Utilities Department shall determine, based on review of the project application, that future projects are sited and designed to avoid conflicts with existing public utilities. Future applicants shall coordinate the location of improvements with the Development Services Department or the Director of the Public Utilities Department in compliance with the Sewer Design Guidelines and other utility agencies that require access to the facilities. Therefore, impacts associated with reclaimed water system improvements would be less than significant at the program-level.

d. Solid Waste

A significant direct impact associated with solid waste would occur if the CPU would:

- Require a new solid waste facility.
- Not meet the 75 percent solid waste diversion rate as mandated by AB 341.

Map Source: Atkins



Not to Scale

FIGURE 5.14-3

Otay Water District – Ultimate Recycled Water System

M:\JOBS2\3957-1\env\graphics\fig5.14-3.ai 03/11/13

THIS PAGE IS INTENTIONALLY BLANK.

- An indirect impact associated with solid waste would occur if the CPU would:
- Substantially increase collection and hauling services.
- Result in the loss of recycling/collection facilities due to changes in land use.

New Solid Waste Facility

Buildout of the CPU would not likely require the construction of a new solid waste facility. As previously detailed in Section 5.14.1.4, the three primary landfills used by the City and private franchise haulers have operating capacity beyond 2020. Furthermore, the distribution of where solid waste eventually ends up and the throughput of each landfill is difficult to track. Thus, at a program-level of analysis, it would not be feasible to accurately predict if solid waste would all end up at Otay Landfill, for example, thus causing it to become over capacity.

Solid Waste Diversion

Nevertheless, calculations can be made regarding the increase in solid waste generation due to changes in land use under the CPU. CalRecycle develops solid waste generation rates for different types of land uses. Solid waste generation rates estimate the amount of waste created by residences or businesses over a certain amount of time (day, year, etc.). Waste generation includes all materials discarded, whether or not they are later recycled or disposed in a landfill. Waste generation rates for residential and commercial activities can be used to estimate the impact of new developments on the local waste stream. Table 5.14-2 shows the estimated solid waste generation rates under the CPU.

TABLE 5.14-2
ESTIMATED SOLID WASTE GENERATION RATES

Use	Generation Rates	Existing Development		Proposed CPU (Buildout)	
		DUs/ Floor Area	Estimated Annual Generation	DUs/ Floor Area	Estimated Annual Generation
Single-family	7.8 lbs/unit/day	2,727 DUs	3,881 tons	4,273 DUs	6,082 tons
Multi-family	3.6 lbs/unit/day	1,106 DUs	726 tons	14,501 DUs	9,527 tons
Commercial	13 lbs/1000 sf/ day	2,653,000 sf	6,294 tons	4,522,000 sf	10,728 tons
Industrial	6.25 lbs/ 1000 sf/day	33,323,000 sf	38,009 tons	52,838,000 sf	60,268 tons
Institutional	0.007 lbs/sf/day	4,988,000 sf	6,372 tons	15,244,000 sf	19,474 tons
Agricultural				0	0
Total Estimated Annual Solid Waste Generation	--	--	55,282 tons	--	106,079 tons

NOTE: City Facilities and Transportation/Utilities not included in estimation.
DU = dwelling unit
sf= square feet
lbs = pounds

Implementation of the CPU would almost double the amount of waste generated within the CPU area under full buildout. However, projects implemented under the CPU would be required to comply with numerous regulations, including the City's Storage Ordinance, the Recycling Ordinance, and the C&D Ordinance. These regulations address the requirements for refuse and recyclable materials' deposit, diversion, and storage in an effort to achieve the City's overall 75 percent diversion goal, as set forth in AB 341.

The City's General Plan also addresses waste management through Policies PF-I.1 through PF-I.5, focusing in on waste recycling and diversion of materials in PF-I.2. Likewise, the CPU includes Policies 6.5-1 through 6.5-5, which promote the planning for sufficient waste handling and disposal capacity to meet future needs, encourage future projects to divert construction and demolition debris beyond the 50 percent required by the City's C&D Ordinance, and require sufficient storage space for recycling containers in all new residential, commercial, and industrial development.

As previously detailed in Section 5.14.1.4, future discretionary projects under the CPU that would generate 60 tons of waste or more during construction and/or operation would be required to prepare a project-specific WMP to address disposal of waste generated during both short-term project construction and long-term operation.

Buildout of the CPU would not directly result in the need for a new landfill. However, compliance with the Storage, Recycling, and C&D ordinances alone would result in only a 40 percent diversion rate within in the CPU area. Future discretionary projects (that meet the threshold) would be required to prepare a WMP with site-specific waste reduction measures in order to meet the state-mandated 75 percent diversion rate. Because all future projects within the CPU area may not be required to prepare a waste management plan or may not reduce project-level waste management impacts below a level of significance, the CPU cannot be guaranteed, at the program-level, to meet the 75 percent diversion requirement. Direct impacts associated with solid waste would be significant at the program-level.

Collection Services

The CPU would allow for residential development in areas that are currently undeveloped, thus resulting in the need for expanded solid waste collection services—either by the City as mandated by the People's Ordinance, or by private franchise haulers. Though not a direct environmental impact, the expansion of collection services would increase the costs incurred by the City, as collection services are free to the citizens under the People's Ordinance. Likewise, the increase in non-residential development under the CPU would increase the use of private franchise haulers. The City does not maintain an exclusive franchising agreement with private haulers. Several haulers compete for customers on an open market. This system does not promote efficient routing. This is a consideration when calculating trips generated by public

services for new development anywhere in the City. As a result, solid waste collection in the Otay Mesa CPU area may result in a minor increase in traffic and its associated impacts (noise and air quality), but does not result in a separate significant impact.

Closure of Collection Facilities

Light industrial land uses, which include recycling and collection facilities, comprise approximately 8 percent of the CPU's overall land uses (see Table 5.1-1). Industrial uses are distributed throughout the central and eastern portions of the CPU area, primarily south of Otay Mesa Road and east of Heritage Road. Auto wrecking and dismantling facilities are concentrated in the area immediately west of Brown Field.

The CPU would not result in the direct loss of recycling or collection facilities. As shown on Figures 3-2 and 5.1-1, parcels that are currently designated for industrial use would remain with an industrial designation under CPU implementation. Furthermore, as previously shown in Table 5.14-2, implementation of the CPU would result in an approximately 50 percent increase in industrial square footage. Therefore, no indirect impacts related to the closure of recycling/collection facilities would occur.

e. Storm Water Infrastructure

As discussed in detail in Section 5.7, Hydrology/Water Quality, future development under the CPU would increase impervious surfaces, resulting in the potential for greater surface runoff and increased demands on existing storm water systems within the CPU area. No storm drains, or other community-wide drainage facilities are proposed for construction in conjunction with adoption of the CPU. As individual development projects are implemented in accordance with the CPU, localized improvements to the storm water system would be required as part of the project design and review. All storm water facilities constructed in conjunction with future development would be reviewed for consistency with the Storm Water Standards.

Future projects implemented in accordance with the CPU may require storm water systems in undeveloped areas, or require improvements to existing storm water systems. Each project implemented in accordance with the CPU would be required to conduct a drainage study, design and build storm drain systems, as necessary, to serve the development. This storm water infrastructure would include components and methods to reduce and treat runoff and prevent pollutants from entering the storm drain system. The construction of these storm water systems could potentially result in physical impacts to the environment. However, projects would be required to reduce or mitigate for these impacts prior to implementation.

Furthermore, all future projects would be required to adhere to regulations and General Plan and CPU policies and are required to comply with the City's Storm Water Standards as discussed in Section 5.7, Hydrology/Water Quality, of this PEIR. While the

details of storm water infrastructure improvements would depend on the actual design of a future project, strict adherence to existing storm water regulations, conformance with General Plan and CPU policies, and project-specific review under CEQA would assure that impacts associated with the installation of storm water infrastructure would be reduced to below a level of significance.

f. Communications Systems

There would be no significant impacts to cable and telephone services, as these are available through private utility companies that have the capacity to serve the CPU area. In addition, the City administers an undergrounding program and requires individual projects consisting of more than four lots to place utility systems and service facilities underground. Short-term construction impacts from installation of new communication systems or undergrounding for individual future projects under the CPU would not result in significant impacts because communication lines would be within existing or planned roadway right-of-way.

5.14.4.2 Significance of Impacts

a. Water, Sewer, and Reclaimed Water

Improvements to water and recycled water systems have been previously identified in master planning documents detailed above, and would be required whether or not the CPU were to be implemented. Therefore, impacts associated with water and reclaimed water system improvements would be less than significant at the program-level.

Additional wastewater system improvements beyond what have been identified in master planning documents would be necessitated by CPU implementation. The need for these improvements would not result in significant impacts, because the 2004 OMTS Sewer Master Plan and 2009 Refinement Report previously identified these improvements as required in future phases to accommodate buildout wastewater generation from the area. The three additional improvements identified above would occur within existing utility line easements and facilities and would not result in significant impacts to the environment. Therefore, impacts associated with wastewater systems would be considered less than significant at the program-level.

b. Solid Waste

The CPU would not result in the direct need for a new landfill. Compliance with the Storage, Recycling, and C&D ordinances and the requirement to prepare a WMP (in some instances) would contribute to the CPU meeting the state-mandated 75 percent diversion rate. However, because all future projects within the CPU area may not be required to prepare a WMP or may not reduce project-level waste management impacts to below a level of significance, the CPU cannot be guaranteed, at the program-level, to

meet the 75 percent diversion requirement. Direct impacts associated with solid waste would be significant at the program-level.

c. Storm Water Infrastructure

No storm drains, or other community-wide drainage facilities are proposed for construction in conjunction with adoption of the CPU. All such facilities would be constructed in conjunction with future development projects implemented in accordance with the CPU, designed to the satisfaction of the City Engineer.

New storm water infrastructure systems would be required in previously undeveloped areas of the CPU, or improvements to existing storm water infrastructure systems would be required which could potentially result in physical impacts to the environment. As such, future projects implemented in accordance with the CPU would be sited and designed to minimize impacts on receiving waters; in particular, the discharge of identified pollutants to an already impaired water body. This would be accomplished through compliance with existing regulatory requirements contained in the City's Storm Water Runoff and Drainage Regulations of the LDC and as further outlined in HYD/WQ-1 and HYD/WQ-2 in Sections 5.7.3.3 and 5.7.6.3, Mitigation Framework.

At the project-level, adherence to existing storm water regulations, conformance with General Plan and CPU policies, and review under CEQA would assure that impacts associated with the requirements for and/or constriction of storm water infrastructure would be less than significant at the program-level.

d. Communications Systems

The CPU would not require new communication systems to be built; however, there would be the need to extend the existing systems to individual project sites. No significant impact is anticipated as a result of undergrounding these utility lines.

5.14.4.3 Mitigation Framework

a. Water, Wastewater, Reclaimed Water

Impacts would be less than significant; therefore, no mitigation would be required.

b. Solid Waste

UTIL-1: Pursuant to the City's Significance Determination Thresholds, discretionary projects (including construction, demolition, and /or renovation) that would generate 60 tons or more of solid waste shall be required to prepare a Waste Management Plan (WMP). The WMP shall be prepared by the applicant, conceptually approved by the ESD and discussed in the environmental document. The WMP shall be implemented by the applicant and address the

demolition, construction, and occupancy phases of the project as applicable to include the following:

a. A timeline for each of the three main phases of the project (demolition, construction, and occupancy).

b. Tons of waste anticipated to be generated (demolition, construction, and occupancy).

c. Type of waste to be generated (demolition, construction, and occupancy).

d. Describe how the project will reduce the generation of C&D debris.

e. Describe how the C&D materials will be reused on-site.

f. Include the name and location of recycling, reuse, and landfill facilities where recyclables and waste will be taken if not reused on-site.

g. Describe how the C&D waste will be source separated if a mixed C&D facility is not used for recycling.

h. Describe how the waste reduction and recycling goals will be communicated to subcontractors.

i. Describe how a "buy recycled" program for green construction products, including mulch and compost, will be incorporated into the project.

j. Describe how the Refuse and Recyclable Materials Storage Regulations (LDC Chapter 14, Article 2 Division 8) will be incorporated into design of building's waste storage area.

k. Describe how compliance with the Recycling Ordinance (Municipal Code Chapter 6, Article 6, Division 7) will be incorporated in the operational phase.

l. Describe any International Standards of Operation 1, or other certification, if any.

c. Storm Water Infrastructure

Impacts would be less than significant; therefore, no mitigation would be required.

d. Communication Systems

Impacts would be less than significant; therefore, no mitigation is required.

5.14.4.4 Significance after Mitigation

a. Water, Wastewater, and Recycled Water

Prior to approval of future projects implemented in accordance with the CPU, the City would determine, based on review of the project application, that future projects are sited and designed to avoid conflicts with existing public utilities satisfactory to the City of San Diego Public Utilities Department Director and/or City Engineer in conjunction with the regulatory requirements contained in the City's Storm Water Standards which would preclude the potential for significant impacts. Therefore, impacts would be less than significant.

b. Solid Waste

Discretionary projects that would generate 60 tons or more of waste would be required to prepare a WMP that is subject to City approval. Projects that do not meet this threshold, or that would be ministerial, would be required to adhere to the ordinances previously detailed in Section 5.14.2.2.

However, compliance with the Storage, Recycling, and C&D ordinances alone would result in only a 40 percent diversion rate within in the CPU area. Because all future projects within the CPU area may not be required to prepare a WMP or may not reduce project-level waste management impacts to below a level of significance, impacts related to solid waste to meet the 75 percent diversion requirement cannot be assured at the program-level. Therefore, impacts associated with solid waste would be significant and unavoidable at the program-level.

c. Storm Water Infrastructure

Although the details of storm water infrastructure improvements are unknown at this program-level analysis, strict adherence to existing regulatory requirements contained in the City's Storm Water Runoff and Drainage Regulations of the LDC and as further outlined in HYD/WQ-1 and HYD/WQ-2 in Sections 5.7.3.3 and 5.7.6.3, Mitigation Framework, conformance with General Plan and CPU policies, and review under CEQA would assure that impacts associated with storm water infrastructure improvements would be less than significant at the project-level.

d. Communication Systems

Impacts would be less than significant.

THIS PAGE IS INTENTIONALLY BLANK.

5.15 Water Supply

This section addresses the availability of water supplies to serve the demands projected for the CPU area. Because the CPU area is serviced by two providers, two water supply assessments (WSAs) were prepared. The City's Public Utilities Department prepared a water supply assessment, on behalf of the City, dated September 2011. A water supply assessment for the portion of the CPU area serviced by the OWD was prepared by Robert Kennedy, P.E. Senior Civil Engineer, Otay Water District in consultation with Atkins and San Diego County Water Authority (March 2013). These water supply assessments are included as Appendices M-1 and M-2, respectively.

5.15.1 Existing Conditions

5.15.1.1 Water Supply

As indicated above, water service to the CPU area is provided by both the City PUD and the OWD. Both of these retail water suppliers depend on wholesale water supply from the SDCWA. The SDCWA, in turn, obtains most of its imported supply from the MWD. The SDCWA and MWD are actively pursuing programs and projects to diversify their water supply resources. MWD, SDCWA, OWD, and the City are each required by the state to prepare an Urban Water Management Plan (UWMP), which are to be updated every five years.

a. Metropolitan Water District

MWD is the supplier of water for most of urban southern California and is a wholesale supplier of water to its member public agencies. MWD owns and operates the Colorado River Aqueduct, and holds the largest contract entitlement to supplies from the California State Water Project. MWD also provides funding and coordination support to its member agencies for the development of local water supply projects, water conservation programs, and other water management measures. MWD is the agency that is ultimately responsible for projecting water supply needs for southern California and for implementing and managing water supplies to reliably meet those needs.

In October 2010, MWD updated its Integrated Resources Plan (IRP). MWD's IRP identifies a mix of resources (imported and local) that, when implemented, would provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The 2010 update to the IRP includes a three-component approach to maintaining a balance between imported water supplies and developing additional local resources:

1. A core resources strategy represents baseline efforts to manage water supply and demand conditions and to stabilize Metropolitan's traditional imports from the Colorado River and northern California through the Sacramento-San Joaquin Delta;

2. A cost-effective "supply buffer" will enable the region to adapt to future circumstances and foreseeable challenges. The buffer seeks to help protect the region from possible shortages caused by conditions that exceed the core resources strategy; and

3. Foundational actions guide the region in determining alternative supply options for long-range planning.

MWD's Regional UWMP was updated in November 2010. The 2010 Regional UWMP provides MWD's member agencies, retail water utilities, cities, and counties within its service area with, among other things, a detailed evaluation of the supplies necessary to meet future demands, and an evaluation of reasonable and practical efficient water uses, recycling, and conservation activities.

b. San Diego County Water Authority

The SDCWA currently obtains imported supplies from MWD and purchases transfer supplies of conserved agricultural water from Imperial Irrigation District (IID). The SDCWA has made large investments in MWD's facilities and will continue to include imported supplies from MWD in the future resource mix. The SDCWA's 2010 UWMP, adopted June 23, 2011, identifies a diverse mix of water resources as goals to be developed through 2035 to ensure long-term water supply reliability for the region. As discussed in the 2010 UWMP, the SDCWA and its member agencies are planning to diversify the region's supply portfolio and reduce purchases from MWD.

Table 5.15-1 summarizes the SDCWA's water supplies for future years, as documented in its 2010 UWMP.

TABLE 5.15-1
PROJECTED WATER SUPPLIES – WATER AUTHORITY SERVICE AREA
NORMAL YEAR
(acre-feet per year [AFY])

Water Supply Sources	2015	2020	2025	2030	2035
Water Authority Supplies					
Metropolitan Supplies	429,356	304,076	337,531	375,109	408,526
Water Authority/IID Transfer	100,000	190,000	200,000	200,000	200,000
AAC and CC Lining Projects	80,200	80,200	80,200	80,200	80,200
Proposed Regional Seawater Desalination	0	56,000	56,000	56,000	56,000
Member Agency Supplies					
Surface Water	17,932	17,932	17,932	17,932	17,932
Water Recycling	38,660	43,728	46,603	48,278	49,998
Groundwater	9,977	9,977	9,977	9,977	9,977
Groundwater Recovery	10,320	15,520	15,520	15,520	15,520
Total Projected Supplies	686,445	717,433	763,763	803,016	838,153

SOURCE: San Diego County Water Authority's 2010 Urban Water Management Plan.

The water supply update incorporates changes in water demands and projected water demands, taking into account changes in regional land use plans, including the CPU and evaluates adjustments to their water supply plans accordingly.

The SDCWA's 2010 UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the SDCWA and its member agencies, through the Emergency Response Plan, Emergency Storage Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle an interruption of water supplies.

c. City of San Diego

The City purchases approximately 85 to 90 percent of its water from the SDCWA, which supplies the water (raw and treated) through two aqueducts consisting of five pipelines. While the City imports a majority of its water, it uses two local supply sources to meet or offset potable demands: local surface water and recycled water. The City's nine surface water reservoirs have more than 408,000 AF of capacity and are connected directly or indirectly to three water treatment plants. These reservoirs capture local rainwater and runoff to supply approximately 12 percent of the City's water; they include Barrett, El Capitan, Hodges, Miramar, Morena, Murray, Lower Otay, San Vicente, and Sutherland.

Table 5.15-2 summarizes the City's existing and planned water supplies, as documented in its 2010 UWMP.

TABLE 5.15-2
CITY OF SAN DIEGO PROJECTED WATER SUPPLY AND DEMAND
AVERAGE YEAR CONDITIONS
(AFY)

	2015	2020	2025	2030	2035
Supply totals	240,472	260,211	276,375	288,481	298,860
Demand totals	240,472	260,211	276,375	288,481	298,860
Difference (supply minus demand)	0	0	0	0	0
Difference as a percent of supply	0	0	0	0	0
Difference as a percent of demand	0	0	0	0	0

SOURCE: City of San Diego 2010 UWMP.

The City has also planned for scenarios such as a single dry year and multiple dry year scenarios. As indicated in Tables 5.15-3 and 5.15-4, the City would be able to meet the water demands in the single dry and multiple dry year scenario from 2015 to 2035.

TABLE 5.15-3
CITY OF SAN DIEGO PROJECTED WATER SUPPLY AND DEMAND
SINGLE DRY YEAR CONDITIONS
(AFY)

Supply and Demand	2015	2020	2025	2030	2035
Supply totals	255,040	276,526	293,895	307,230	318,586
Demand totals	255,040	276,526	293,895	307,230	318,586
Difference (supply minus demand)	0	0	0	0	0

SOURCE: City of San Diego 2010 UWMP.

TABLE 5.15-4
CITY OF SAN DIEGO PROJECTED WATER SUPPLY AND DEMAND
MULTIPLE DRY YEAR CONDITIONS
(AFY)

Multiple Dry Year	Supply and Demand	Supply and Demand Comparison – Multiple Dry Year Events				
		2015	2020	2025	2030	2035
First year supply	Supply totals	257,587	278,451	296,319	309,230	320,382
	Demand totals	257,587	278,451	296,319	309,230	320,382
	Difference	0	0	0	0	0
	Difference as a percent of supply	0	0	0	0	0
	Difference as a percent of demand	0	0	0	0	0
Second year supply	Supply totals	267,323	288,723	306,726	320,467	332,038
	Demand totals	267,323	288,723	306,726	320,467	332,038
	Difference	0	0	0	0	0
	Difference as a percent of supply	0	0	0	0	0
	Difference as a percent of demand	0	0	0	0	0
Third year supply	Supply totals	281,466	303,004	322,166	334,720	346,823
	Demand totals	281,466	303,004	322,166	334,720	346,823
	Difference	0	0	0	0	0
	Difference as a percent of supply	0	0	0	0	0
	Difference as a percent of demand	0	0	0	0	0

SOURCE: City of San Diego 2010 UWMP.

d. Otay Water District

The OWD service area is generally located within the south-central portion of San Diego County and includes approximately 125 square miles. The OWD serves portions of the unincorporated communities of southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, and Otay Mesa, the eastern portion of the City of Chula Vista, and a portion of the CPU area within the City of San Diego.

The OWD obtains an average of approximately 10 percent of its water supplies from local recycled water, but purchases most of its supply from the SDCWA. The District has documented its water supply projections in its 2010 UWMP based on their 2010 WRMP Update. Table 5.15-5 presents the existing and projected water supply needs for the OWD, as derived from their 2010 UWMP.

In evaluating the availability of sufficient water supply, future development within the CPU area would be required to participate in the development of alternative water supply project(s). This would be achieved through payment of the New Water Supply Fee adopted by the Otay Water District Board in May 2010 at the time that water connection applications are submitted to OWD for review. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and MWD UWMP, IRP, Master Plans, and other planning documents and are in response to regional water supply issues related to climatological, environmental, legal, and other challenges that impact water supply source conditions.

TABLE 5.15-5
OTAY WATER DISTRICT WATER SUPPLY AND DEMAND
(AFY)

Water Supply Sources	2015	2020	2025	2030	2035
Water Authority[1]	40,483	41,321	44,015	45,974	48,614
Recycled Water	4,400	5,000	5,800	6,800	8,000
Groundwater	0	0	0	0	0
Supply Totals	44,883	46,321	49,815	52,774	56,614
District Demands[2]	44,883	53,768	63,811	70,669	77,171
Additional Conservation Target[3]	0	-7,447	-13,996	-17,895	-20,557
Demand Totals with Conservation	44,883	46,321	49,815	52,774	56,614
Difference	0	0	0	0	0

[1]Water Authority supplies assume that the District demands meet their 2010 and 2015 SBX 7-7 gpcd (gallons per capita per day) water use targets.
[2]District demand projections based on SANDAG population projections and near-term annexations.
[3]Additional conservation target is conservation required for District to meet their 2010 and 2015 SBX 7-7 gpcd target demands
SOURCE: Supply requirement and demand data based upon Otay Water District Draft 2010 UWMP.

5.15.1.2 Regulatory Framework

a. Senate Bills 610 and 221

SB 610 and SB 221 amended state law, effective January 1, 2002, to improve the link between information on water availability and certain land use decisions made by cities and counties. Both statutes require detailed information regarding water availability to be provided to the City decision makers prior to approval of specified large development projects. Under SB 610, water assessments would be furnished to the City by the water-serving agencies for inclusion in any environmental documentation for future projects (as defined in the Water Code 10912[a] subject to CEQA).

In addition under SB 221, approval by the City of certain residential subdivisions requires an affirmative written verification that sufficient water supply is available prior to approval of any tentative map for that development. The City ensures that major projects are sited and designed to minimize impacts to water resources. Pursuant to SB 610, the City ensures that the water purveyor prepares a water supply assessment for the following developments:

- Residential development of more than 500 units.
- Shopping centers or businesses employing more than 1,000 people or having more than 500,000 square feet of floor space.
- Commercial office buildings employing more than 1,000 people or having more than 250,000 square feet of floor space or occupying more than 40 acres of land.
- Hotels or motels having more than 500 rooms.
- Industrial, manufacturing, or processing plants or industrial parks planned to house more than 1,000 people or having more than 650,000 square feet of floor space.
- Mixed-use projects that include one or more of the above types of projects.
- Projects that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project.

Prior to approval by the City of certain residential subdivisions, SB 221 also requires an affirmative written verification that sufficient water supply is available prior to approval of the project.

b. Water Conservation Regulations/Programs

Senate Bill X7-7

SB X7-7 (California Water Code Section 10608.20) was enacted to require retail urban water agencies within the state to achieve a 20 percent reduction in urban per capita water use by December 31, 2020. To support compliance with SB X7-7, the SDCWA offers incentives for water conservation measures to residential, commercial, industrial, and institutional users. The regional SoCal Water$mart rebate program offers rebates to residences for high-efficiency clothes washers, weather-based irrigation controllers, rotating nozzles, and other devices. Through the program over 22,400 high-efficiency clothes washers and 1.5 million square feet of synthetic turf was installed. The installation of these devices and others rebated through the program are expected to generate a lifetime water savings of more than 22,000 AF. Commercial, Industrial and Institutional users are offered participation in SDCWA CII Voucher Incentive Program (VIP) and, more recently in MWD's regional CII Save A Buck Program. Through both the VIP and Save A Buck programs over 56,000 commercial, industrial, and institutional water-saving devices were installed that provided 18,400 AF of water savings from 1993 to 2009.

SDCWA

The SDCWA 2010 UWMP addresses plans to address supply shortages due to a catastrophe, drought, or other situations. The SDCWA's Integrated Contingency Plan (ICP) and Emergency Storage Plan (ESP) were developed to protect public health and safety and to prevent or limit economic damage that could occur from a severe shortage of water supplies. The ICP provides actions to be taken in the event of an earthquake or power outage. The ESP provides actions that the SDCWA will take to operate ESP facilities to address up to a 6-month supply interruption, which could result from earthquakes or other natural disasters. Likewise, the SDCWA has the Water Authority's Water Shortage and Drought Response Plan (WSDRP), which serves as the region's guide to managing water resources during draught.

City of San Diego PUD

UWMP. The City's 2010 UWMP includes water conservation BMPs. These demand management measures are intended to support the conservation of water throughout the City. Incentive programs include water surveys, implementation of SoCal Water$mart rebate program for residential properties and Save A Buck program for commercial, industrial and institutional and multi-family properties. The "No Time To Waste, No Water To Waste" public outreach and education campaign raises awareness to drought alert levels and new, mandatory water use restrictions and reduces water usage by 8 percent from SDCWA projections.

Municipal Code. The Emergency Water Regulations (Municipal Code Section 67.3801 et seq.) establishes water management requirements necessary to conserve water, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, prevent unreasonable use of water, prevent unreasonable method of use of water within the City service area in order to assure adequate supplies of water to meet the needs of the public, and further the public health, safety, and welfare, recognizing that water is a scarce natural resource that requires careful management not only in times of drought, but at all times.

Municipal Code Section 147.0401 requires that all buildings, prior to a change in ownership, be certified as having water-conserving plumbing fixtures in place. All residential, commercial, and industrial water customers who receive water from the City's Public Utilities Department are affected by these regulations. Section 142.0401 of the Municipal Code requires the use of drought-tolerant landscaping as further means of reducing water consumption.

The City's Landscape Standards (Municipal Code Section 142.0401 et seq.) require all proposed planting and irrigation work to conserve water through low-water-using planting and irrigation design. The regulations provide detailed tables identifying specific restrictions in types of landscaping allowable for differing types of development. Likewise, the Landscape Standards, which are part of the City's Land Development Manual, establish the minimum plant material, irrigation, brush management, and landscape-related standards for work done in accordance with requirements of Land Development Code. They provide guidelines and alternative methods to meet regulations based on various site conditions. Additionally, the Landscape Standards provide the technical standards to create and maintain landscapes that conserve and efficiently use water.

OWD

The OWD promotes water conservation at a variety of events, including those involving developers in its service area. In addition, the OWD developed and manages a number of its own programs such as the Cash for Water$mart Plants retrofit program, the Water$mart Irrigation Upgrade Program, and the Commercial Process Improvement Program. Pursuant to SB X7-7, the OWD focuses on water use reduction and measures including receiving additional recycled water from local recycling facilities and requiring new developments to use recycled water for irrigation purposes where allowed by the County.

UWMP. The OWD 2010 UWMP includes water conservation BMPs. These demand management measures are intended to support the conservation of water throughout the OWD service area. Incentive programs include water surveys, implementation of SoCal Water$mart rebate program for residential properties and Save A Buck program for commercial, industrial and institutional and multi-family properties.

WRMP. The Otay Water District's WRMP outlines a comprehensive program for the orderly and phased development of potable and recycled water supply, storage, transmission, and distribution through ultimate buildout of the land within the OWD, according to local land use approvals and planning. The WRMP is updated at five- to seven-year intervals to reflect the most current land use information.

c. General Plan

The General Plan includes policies pertaining to water conservation, as shown in Table 5.15-6.

TABLE 5.15-6
CONSERVATION ELEMENT POLICIES RELATED TO WATER CONSERVATION/LANDSCAPE DESIGN

Policy	Description
CE-D.1	Implement a balanced, water conservation strategy as an effective way to manage demand by: reducing dependence on imported water supplies; maximizing the efficiency of existing urban water and agricultural supplies through conservation measures/programs; and developing alternative, reliable sources to sustain present and future water needs.
CE-D.2	Protect drinking water resources by implementing guidelines for future development that may affect water supply watersheds, reservoirs and groundwater aquifers. The guidelines should address site design, Best Management Practices (BMPs) and storm water treatment measures.
CE-D.4	Coordinate local land use planning with state and regional water resource planning to help ensure that the citizens of San Diego have a safe and adequate water supply that meets existing needs and accommodates future needs
UD-A.8.b	Use water conservation through the use of drought-tolerant landscape, porous materials, and reclaimed water where available.

SOURCE: City of San Diego 2008.

5.15.2 Significance Determination Thresholds

Based on the City's Significance Determination Thresholds, impacts related to water supply would be significant if the CPU would:

1. Result in the use of excessive amounts of potable water beyond projected available supplies.

2. Allow for the use of predominantly non-drought resistant landscaping and excessive water usage for irrigation and other purposes.

5.15.3 Issue 1: Water Supply

Would the CPU affect the ability of the water-serving agencies (City of San Diego, SDCWA, and OWD) to provide water?

5.15.3.1 Impacts

a. City of San Diego Public Utilities Department

Pursuant to SB 610 and SB 221, the City PUD prepared a WSA dated September 2011, to provide certification that there would be sufficient water supply available to support the portion of the CPU within the PUD service area. Specifically, the Water Supply Assessment (WSA) evaluated water supplies that are or will be available during a normal, single dry year, and multiple dry years over a 20-year period, to meet the estimated demands of the CPU.

As shown in Tables 5.15-2, 5.15-3, and 5.15-4, above, the estimated PUD service area water supply for the year 2035 for a normal year, single dry year, and multiple dry years is 298,860 AFY, 318,586 AFY, and 346,823 AFY, respectively. Tables 6-5, 6-7 and 6-8 of the WSA (which is included as Appendix M-2 to this PEIR), show the estimated water supply will meet the City's projected water demands. These findings substantiate that there are sufficient water supplies over a 20-year planning horizon to meet the projected demands within the PUD service area in normal, dry year, and multiple dry year forecasts.

Water demand associated with accelerated forecasted growth is intended to account for a portion of SANDAG's residential land use development currently projected to occur between 2035 and 2050. However, this demand has the potential to occur on an accelerated schedule. Under this model, the difference between the planned and proposed water demands of the CPU is accounted for in the SDCWA 2010 UWMP.

TABLE 5.15-7
COMMUNITY PLAN UPDATE WATER DEMAND ANALYSIS (CITY PUD)

Planned Water Demands for OMCP per the 2010 UWMP		
Single-family[1]	4,040 units	1,767 AFY
Multi-family[2]	8,487 units	2,540 AFY
Employees[3]	16,149	1,086 AFY
Total Planned		5,393 AFY
Projected Water Demands for the CPU (within the City's PUD Service Area)		
Land Use		
Single-family	4,273 units[4]	1,869 AFY
Multi-family	9,255 units[4]	2,769 AFY
Employees	13,758	925 AFY
Total Projected		5,563 AFY
Net Water Demands		
Projected CPU demand		5,563 AFY
Planned – City of San Diego 2010 UWMP		5,393 AFY
Planned from Water Authority's Accelerated Forecasted Growth		170 AFY
Net Unanticipated Demands		0

AFY = acre-feet per year.
[1]116 gallons per person per day is the City's acceptable standard for single-family water consumption. The SANDAG Series 12 forecast projects a residential occupancy of 3.42 persons per household and a vacancy rate of 1.6% for single-family units in 2035.
[2]80 gallons per person per day is the City's acceptable standard for multi-family water consumption. The SANDAG Series 12 forecast projects a residential occupancy of 3.42 persons per household and a vacancy rate of 2.3% for multi-family units in 2035.
[3]The utilization of 60 gallons per person per day is the City's acceptable standard for employment water use.
[4]The numbers of single- and multi-family units are based on the April 2011 draft CPU and represent a worst-case scenario for CPU area buildout within the City PUD Service area. The total number of CPU units is 18,774.

As demonstrated in Table 5.15-7, the projected water demand of the CPU with the City's PUD service area is estimated at 5,563 AFY. Per the City's 2010 UWMP, the planned water demand for the adopted Otay Mesa Community Plan is 5,393 AFY. The remaining portion of the estimated 170 AFY is accounted for through the Accelerated Forecast Growth demand increment of the SDCWA 2010 UWMP. Therefore, based on the findings of the City's 2010 UWMP and the Water Authority's 2010 UWMP, the CPU would result in no unanticipated demands.

In summary, the WSA concluded that the CPU is consistent with the water demand assumptions included in regional water resource planning documents. Current and future water supplies, as well as the actions necessary to develop these supplies, have been identified in the water resources planning documents of the PUD, the SDCWA, and MWD. The projected demands of the CPU area, in addition to existing and planned future water demand of the PUD are capable of being served.

b. Otay Water District

Pursuant to SB 610 and SB 221, a WSA for the CPU also has been prepared by OWD in consultation with Atkins, the SDCWA, and the City of San Diego. The WSA evaluates water supplies that are planned to be available during normal, single dry year, and multiple dry water years during a 20-year planning horizon to meet existing demands, expected demands of the CPU, and reasonably foreseeable planned future water demands served by OWD.

As shown in Table 5.15-8, below, the expected potable water demand for the CPU within the OWD service area is 4.7 million gallons per day (mgd) or about 5,273 AFY and is slightly less than what was projected in the District's WRMP, updated November 2010, which estimated 4.92 mgd for the CPU, or about 5,412 AFY.

TABLE 5.15-8
COMMUNITY PLAN UPDATE WATER DEMAND ANALYSIS (OWD)

CPU Land Use	Quantity[1]	Potable Water Factor	Unit Rate	Net Potable Unit Rate	Average Demand (gpd)
Multi-family Residential	5,246 units[2]	85%	300 gpd/unit	255 gpd/unit	1,337,730
Commercial/Office	142 acres[2]	90%	1,785 gpd/acre	1,607 gpd/acre	228,123
Industrial	876 acres[2]	95%	893 gpd/acre	848 gpd/acre	743,155
IBT	1,286 acres[2]	90%	1,800 gpd/acre	1,620 gpd/acre	2,083,320
Institutional	220 acres[2]	80%	1,785 gpd/acre	1,428 gpd/acre	314,160
Parks	61 acres[2]	0%	2,155 gpd/acre	0 gpd/acre	0
TOTAL					4,706,488

[1]Acres and units are those CPU land uses located within the boundaries of the OWD Service Area
[2]The numbers of single and multi-family units are based on the April 2011 draft CPU and represent a worst-case scenario for CPU area buildout within the City PUD Service area. The total number of CPU units is 18,774.

The current projected recycled water demand for the proposed CPU within the OWD service area is provided in Table 5.15-9, and totals approximately 0.69 mgd or about 774 AFY, representing about 14 percent of total CPU demand, within the OWD service area. Future development consistent with the CPU located within OWD service area would be required to use recycled water for irrigation and other appropriate uses. The primary benefit of using recycled water is that it would offset the potable water demand by an estimated 774 AFY. The WRMP Update and the 2010 UWMP anticipated that future development within the CPU area would use both potable and recycled water.

As shown in Table 5.15-10 below, the estimated OWD service area water supply for the year 2035 for a normal year is 56,614 AF. As shown in Table 5.15-11, the estimated OWD service area water supply for the year 2012 for single dry year was 41,566 AF. As shown in Table 5.15-11, the estimated OWD service area water supply for the year 2012 for multiple dry year was 50,291 AF.

TABLE 5.15-9
COMMUNITY PLAN UPDATE RECYCLED WATER AVERAGE DEMANDS (OWD)

CPU Land Use	Quantity[1]	Recycled Water Factor	Net Recycled Acreage	Unit Rate	Average Demand (gpd)
Multi-family Residential	191 acres[2]	15%	29	2,155 gpd/acre	61,741
Commercial/Office	142 acres[2]	10%	14	2,155 gpd/acre	30,601
Industrial	876 acres[2]	5%	44	2,155 gpd/acre	94,389
IBT	1,286 acres[2]	10%	129	2,155 gpd/acre	277,133
Institutional	220 acres[2]	20%	44	2,155 gpd/acre	94,820
Parks	61 acres[2]	100%	61	2,155 gpd/acre	131,455
TOTAL			**321**		**690,139**

[1]Acres and units are located within the boundaries of the OWD Service Area
[2]The numbers of single- and multi-family units are based on the April 2011 draft CPU and represent a worst-case scenario for CPU area buildout within the City PUD Service area. The total number of CPU units is 18,774.

Table 5.15-10 presents the forecasted balance of water demands and required supplies for the OWD service area under average or normal year conditions. The total actual demand for FY 2010 was 33,270 AF. The demand for FY 2010 was 5,635 acre feet lower than the demand in FY 2005 of 38,905 AF. The drop in demand was a result of the unit price of water, the conservation efforts of users as a result of the prolonged drought, and the economy.

TABLE 5.15-10
PROJECTED BALANCE OF WATER DEMANDS AND SUPPLIES NORMAL YEAR CONDITIONS
(AF)

Description	FY 2015	FY 2020	FY 2025	FY 2030	FY 2035
Demands					
Otay WD Demands	44,883	53,768	63,811	70,669	77,171
Additional Conservation Target	0	(7,447)	(13,996)	(17,895)	(20,557)
Total Demand	44,883	46,321	49,815	52,774	56,614
Supplies					
Water Authority Supply	40,483	41,321	44,015	45,974	48,614
Recycled Water Supply	4,400	5,000	5,800	6,800	8,000
Total Supply	44,883	46,321	49,815	52,774	56,614
Supply Surplus/(Deficit)	**0**	**0**	**0**	**0**	**0**

Table 5.15-11 presents the forecasted balance of water demands and supplies for the OWD service area under single dry year and multiple dry year conditions as from the OWD 2010 UWMP. Dry year demands assumed to generate a 6.4% increase in demand over normal conditions for each year in addition to new demand growth.

TABLE 5.15-11
PROJECTED BALANCE OF WATER DEMANDS AND SUPPLIES
SINGLE DRY AND MULTIPLE DRY YEAR CONDITIONS
(AF)

	Normal Year FY 2011	Single Dry Year FY 2012	Multiple Dry Years		
			FY 2013	FY 2014	FY 2015
Demands					
Otay WD Demands	37,176	41,566	43,614	46,385	50,291
Total Demand	37,176	41,566	43,614	46,385	50,291
Supplies					
Water Authority Supply	33,268	37,535	39,460	42,108	45,891
Recycled Water Supply	3,908	4,031	4,154	4,277	4,400
Total Supply	37,176	41,566	43,614	46,385	50,291
Supply Surplus/(Deficit)	**0**	**0**	**0**	**0**	**0**

District Demand totals with SBX7-7 conservation target achievement plus single dry year increase as shown. The Water Authority could implement its Drought Management Plan (DMP). In this instances, the Water Authority may have to allocate supply shortages based on it equitable allocation methodology in its DMP.

The WSA assesses, demonstrates, and documents that sufficient water supplies are planned for and are intended to be acquired, as well as the actions necessary and status to develop these supplies, to meet projected water demands of the CPU as well as existing and other reasonably foreseeable planned development projects within the OWD for a 20-year planning horizon, in normal and in single and multiple dry years. In addition, the regional water suppliers along with OWD fully intend to maintain sufficient reliable supplies through the 20-year planning horizon under normal, single, and multiple dry year conditions to meet the projected demands of the CPU as noted above.

5.15.3.2 Significance of Impacts

a. City of San Diego PUD

Based on the findings of the WSA, there is sufficient water supply to serve existing demands, projected demands of the CPU, and future water demands within the PUD's service area in normal and dry year forecasts during a 20-year projection. Therefore, impacts would be less than significant.

b. Otay Water District

Based on the findings of the WSA, there is sufficient water supply to serve existing demands, projected demands of the CPU, and future water demands within the OWD's service area for a 20-year planning horizon in normal, single and multiple dry year forecasts. Therefore, impacts would be less than significant.

5.15.3.3 Mitigation Framework

a. City of San Diego Public Utilities Department

Impacts would be less than significant; therefore, no mitigation is required.

b. Otay Water District

Impacts would be less than significant; therefore, no mitigation is required.

5.15.3.4 Significance After Mitigation

Impacts would be less than significant.

5.15.4 Issue 2: Landscape Plans

Would the CPU allow for the use of predominantly non-drought resistant landscaping and excessive water usage for irrigation and other purposes?

5.15.4.1 Impacts

Buildout under the CPU would result in the placement of new landscaping throughout the CPU area requiring water use for irrigation purposes. Future development would be required to adhere to existing regulations to assure that acceptable plants are selected for landscaping. Additionally, based on plants selected, an applicant would be granted a maximum applied water allowance according to Section II, Irrigation Systems, of the Landscape Standards in the City's Land Development Code, the maximum applied water allowance would be based on the landscape design package approved for the development project.

The landscape standards, found in the City's Land Development Manual, provide direction for the placement of preferred plants. Preferred plants are water-conserving plants that are easily maintained and have no known history of problems, and acceptable plants are those satisfying minimum performance standards. In addition to identifying specific plants, the Landscape Standards provide guidance for drainage installation and maintenance. This assures landscape systems are designed, constructed, and managed to maximize overall irrigation efficiency within the limits established by the maximum applied water allowance.

Adherence to the General Plan and the CPU policies would also serve to assure the use of drought-tolerant plantings for project landscape plans. Landscape design policies in the CPU Urban Design Element, like the General Plan Policy UD-A.8.b, require the use of sustainable landscape practices, including water conservation and storm water management (Policy 4.3-7(b)). Additionally, the CPU Mobility Element requires the

planting of drought-tolerant landscaping along sidewalks and transit centers (Policies 3.2-2 and 3.3-5).

5.15.4.2 Significance of Impacts

All future development must conform with existing regulations, as well as the General Plan and CPU policies, which would ensure the use of predominantly drought-resistant landscaping and water conservation for landscape maintenance. Impacts would therefore be less than significant.

5.15.4.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation is required.

5.15.4.4 Significance After Mitigation

Impacts would be less than significant.

5.16 Population and Housing

This section addresses the existing population and the proposed introduction of new housing and new density/land use allocation within the CPU area.

5.16.1 Existing Conditions

5.16.1.1 Citywide and CPU Area Population and Housing

During the 2000 census, the population for the City was recorded at more than 1.2 million people, an estimated 10 percent increase over 1990 levels of 1.1 million. The population of San Diego continues to grow, and in 2012 was estimated to be more than 1.3 million people (SANDAG 2012a). The population estimates compiled by SANDAG indicate that the population of the City will increase approximately 46 percent to more than 1.9 million people by 2050 (SANDAG 2010a).

Citywide, the total housing units to accommodate the population growth will also increase. From 1990 to 2000, there was an increase in housing units from approximately 432,000 units to approximately 470,000 units. In 2012, total housing units were estimated at approximately 518,137units (SANDAG 2012a), and this is anticipated to increase to more than approximately 722,000 units by 2050 (SANDAG 2010a). Single-family detached units currently make up just over 40 percent of the housing stock (SANDAG 2012a). This percentage has been dropping as new multi-family units are built.

According to SANDAG, the population for the CPU area was 15,323 residents in 2012 (SANDAG 2012b). By 2030, this population is projected to increase to 46,392; and to 65,368 by 2050 (SANDAG 2010b). In addition, the total housing units in the CPU area are expected to increase from 3,833 to 13,850 by 2030; by 2050, this number is estimated to be 19,600. Table 5.16-1 shows the projected population and housing for the CPU area between 2012 and 2050.

TABLE 5.16-1
SANDAG POPULATION AND HOUSING ESTIMATES IN THE CPU AREA
(2012 to 2050)

Population and Housing	2012	2030	2050	Percent Change 2012-2050
Total Population	15,323	46,392	65,368	326
Total Housing Units	4,213	13,850	19,600	365
Single-family housing units	2,745	5,125	5,125	87
Multi-family housing units	1,468	8,725	14,475	886

SOURCE: SANDAG 2010b and 2012b

Table 5.16-2 provides a comparison of the 2012 population and housing estimates for the CPU area and the City as a whole. As seen in this table, the CPU area makes up approximately 0.2 percent of the citywide population. In addition, while approximately 65 percent of the housing stock in the CPU area is single-family, single-family detached housing comprises just 41 percent of the housing stock citywide. At an average of 3.77 people per household (pph), the pph ratio in the CPU area is higher than that of the citywide average of 2.59 pph (SANDAG 2012a and 2012b). Finally, the median household income in the CPU area of approximately $87,578is approximately 28 percent higher than the median income citywide, which is approximately $68,674 (SANDAG 2012a and 2012b).

TABLE 5.16-2
POPULATION AND HOUSING ESTIMATES (2012)

Area and Population	Housing Stock				Household Size	Median Household Income
	Single-Family[1]		Multi-Family			
	Units	%	Units	%		
City of San Diego 1,321,315	280,289	55	232,556	45	2.59	$68,674
Otay Mesa 15,323	2,745	65	1,468	35	3.77	$87,578

SOURCE: SANDAG 2012a and 2012b.
[1]Includes both single-family attached and detached

Adoption of the MSCP in 1997 reduced the City's designated residential acreage in the CPU area by approximately 2,000 acres, thus deleting the potential for nearly 6,000 units from the CPU area that had been planned for by the 1981 community plan. Existing residential development has occurred within the Northwest District through the precise planning process. Most of the neighborhoods within the precise plans are developed or have been approved. The development pattern is predominantly single-family dwelling units, with several multi-family dwelling unit complexes dispersed throughout this area.

5.16.1.2 Plans and Policies

a. SANDAG's Regional Growth Forecast

SANDAG is the regional agency responsible for preparing population, housing, and employment projections for the San Diego region. In February 2010, SANDAG adopted the 2050 Regional Growth Forecast. This forecast represents SANDAG's estimate of population, housing, land use, and economic growth to the end of the TransNet program in 2048. According to this forecast, by 2050, the CPU area would experience a 405 percent increase in population and 417 percent increase in housing stock over what was identified for 2008 (SANDAG 2010b).

b. SANDAG Regional Comprehensive Plan and Regional Housing Element

SANDAG's RCP provides a growth management strategy that aims to preserve natural resources and limit urban sprawl. In accordance with smart growth principles, the overall goal of the RCP is to strengthen the integration of local and regional land use, transportation, and natural resource planning. Strategies to locate new housing within already urbanized communities close to jobs and transit helps conserve open space and rural areas, rejuvenate existing neighborhoods, and shorten long commutes (SANDAG 2004).

The RCP is the principal planning tool for regional growth, planning, and infrastructure investment. In addition to stating the need for application of smart growth strategies in the siting and development of new housing, the RCP considers housing needs for the region, including housing choices in all price ranges. The RCP states that homes need to be affordable to persons of all income levels and accessible to persons of all ages and abilities.

The RCP also identifies the principal need to promote social equity and environmental justice via implementation of policy goals, objectives, or actions that focus on creating healthy, walkable communities; accessible transportation options; affordable and high-quality housing; maintenance or enhancement of natural areas; adequate buffering for sensitive uses (residential, schools, etc.) from industry and high-traffic corridors; improving living standards; and appropriate siting of energy and waste disposal facilities.

c. General Plan and Housing Element

As discussed in previous chapters of this PEIR, the goal of the General Plan is to provide a long-term strategy to address the City's forecasted population growth and development needs, predominantly through effective and innovative redevelopment and infill. This strategy focuses growth into villages or mixed-use activity centers that are pedestrian friendly, offer a variety of housing types at a range of densities, and are linked to a transit system.

The City's 2013-2020 Housing Element, adopted in March 2013, more specifically analyzes the City's housing needs and identifies potential sites for the provision of additional housing for all segments of the City. The Housing Element is intended to be consistent with and implement the adopted goals of the General Plan. The Housing Element concludes that there is adequate residentially designated land to meet housing needs for the current seven-year cycle; however, it is noted that full realization of the adequate sites inventory cannot be achieved unless there is significant infrastructure investment in the City's communities.(City of San Diego 2013). The Housing Element emphasizes "the provision of sufficient housing for all income groups to accommodate San Diego's anticipated share of regional growth over the next housing element cycle, 2013 - 2020, in a manner consistent with the development pattern of the sustainable communities strategy (scs), that will help meet

regional ghg targets by improving transportation and land use coordination and jobs/housing balance, creating more transit-oriented, compact and walkable communities, providing more housing capacity for all income levels, and protecting resource areas." (City of San Diego 2013b).

d. City Inclusionary Affordable Housing Regulations (Land Development Code Section 142.1300)

Consistent with the goals of the Housing Element to ensure the development of sufficient new housing for all income groups and significantly increase the number of affordable housing opportunities, the City adopted an ordinance pertaining to the provision of affordable housing in conjunction with market-rate development (City of San Diego 2013b). The ordinance generally applies to developments of two or more homes, except in the former North City Future Urbanizing Area (NCFUA). This program requires that 10 percent of the total dwelling units in a proposed development shall be affordable to targeted rental households or targeted ownership households, except in the NCFUA, where 20 percent of units must be affordable to specified income levels. This requirement can be met by building on-site or off-site in the same community or through payment of a fee. These fees go into an Inclusionary Housing Trust Fund administered by the Housing Commission, which finances affordable housing development.

In concert with housing shortages, regional housing authorities cite the current and projected lack of affordability of available housing as a major concern in the San Diego region.

A primary goal of the City's Housing Element is to ensure the development of sufficient new housing for all income groups and significantly increase the number of affordable housing opportunities. The City's Housing Element for 2013-2020 includes an introduction titled "San Diego's Affordable Housing Crisis, the Great Recession and the Dissolution of Redevelopment," which notes that "…lack of affordable housing is not only a problem for low-and very low- income residents and for those with special needs, it is also a major problem for a large number of moderate- income working families. Although housing prices have dropped somewhat in recent years due to the economic recession, so too have the number of building permits for housing at all levels of affordability, thus impacting the overall housing inventory." (City of San Diego 2013).

To conform to state law that requires each jurisdiction to meet its fair share of the regional housing need, the City adopted an ordinance pertaining to the provision of affordable housing through inclusionary zoning, as discussed above. Inclusionary housing programs are one method for cities to ensure that units for low- and moderate-income families are built along with market rate units. The City's ordinance is contained within Section 142.1300 et seq. of the LDC. The inclusionary zoning policies are consistent with the goals of the Housing Element to ensure the development of sufficient new housing for all income groups and significantly increase the number of affordable housing opportunities.

To minimize displacement of existing residents as communities redevelop over time, the General Plan contains policies to ensure that planning and development of balanced communities provides opportunities for local citizen involvement with a goal to disperse affordable housing projects throughout the City. These policies also aim to:

- Achieve a balance of incomes in all neighborhoods and communities.
- Provide a variety of housing types, sizes, and prices in residential and village developments.
- Provide affordable housing to offset the displacement of the existing population within the community, striving for balanced commercial development and accessible and equitably distributed social services throughout the City.
- Provide linkages between employment areas, housing, and villages via an integrated transit system and a well-defined pedestrian and bicycle network.
- Include a variety of different land use types in order to provide opportunities for a diverse mix of uses within the community.

As discussed above, residential development within the Northwest District of the planning area has been completed or is planned for future development, consisting of several multi-family dwelling units dispersed throughout the CPU area, thereby adding to the stock of affordable housing.

5.16.2 Significance Determination Thresholds

Based on the City's Significance Determination Thresholds, population and housing impacts would be considered significant if the CPU would:

1. Result in substantial population growth, including growth inducing impacts; or
2. Not be in compliance with the City's Inclusionary Affordable Housing Ordinance.

5.16.3 Issue 1: Population Growth

Would the land use modifications associated with the CPU induce substantial population growth in the area?

5.16.3.1 Impacts

SANDAG population projections prepared for the CPU area indicate that population will increase over time, regardless if the CPU were implemented. To accommodate expected growth, the CPU would redesignate some areas identified in the adopted Community Plan for industrial uses to mixed-use commercial/residential village, institutional uses and

parkland, and would increase density in areas presently designated for very-low to medium density residential uses.

As shown in Table 5.16-3, the CPU projected units and population buildout numbers differ slightly from the SANDAG forecast numbers. The CPU totals represent buildout numbers, with buildout projected to be beyond 2050. The housing unit totals were projected for traffic modeling purposes, and the population projection was derived from the analysis provided in the Community Planning Survey conducted by SourcePoint (City of San Diego 2006b). The CPU proposes an increase of approximately 6,374 residential dwelling units as compared to the adopted community plan and approximately 14,500 additional units above existing units (as of 2012) (SANDAG 2012b). The number of single-family dwelling units would increase under the CPU; however, single-family dwelling units would continue to become a smaller percentage of overall housing in the community. The number of multi-family units would increase by 888-percent (13,033 units) with buildout of the CPU, and the availability of mixed-use housing (Village Areas) also would be substantially increased with buildout of the CPU.

TABLE 5.16-3
RESIDENTIAL BUILDOUT

	Existing[1]	Adopted Community Plan[2]	Proposed CPU
Total Population	15,323	45,136[3]	67,035[4]
Residential Acreage	528[5]	1,269	802
Village Area Acreage (Mixed-use and Residential)[6]	0	0	560
Dwelling Units Total	4,213	12,400	18,774
Single-family	2,745	--	4,273
Multi-family	1,468	--	14,501
Village Area[7]	0	--	11,126

[1]Current Estimates, 2012 (SANDAG 2012b).
[2]As amended in 1997 with the deletion of approximately 5,300 housing units resulting from Multiple Species Conservation Program (MSCP) approval.
[3]Estimate based on number of permitted dwelling units, assuming 3.64 pph (see Section 5.16.1)
[4]Draft CPU, Table 2-5 (City of San Diego 2013a).
[5]SANDAG Land Use Data (SANDAG 2012c).
[6]Acreage within "Neighborhood Village" and "Community Village."
[7]Includes multi-family and single-family units.

Under the CPU, the acreage designated for residential and/or village uses would increase almost three-fold compared to the amount of acreage developed with residential uses in 2012.

The CPU indicates that the Northwest District is mostly developed and is considered as an area with little opportunity for change (City of San Diego 2013a). Upon buildout of the CPU, the anticipated population within this district is 27,908 residents. Based on the housing mix proposed within the Southwest and Central Village areas, estimated population at buildout for these areas of the CPU is 21,028 and 18,099 residents, respectively.

The increase in projected population within the CPU area would be primarily accommodated in multi-family dwelling units rather than single-family housing, thus substantially increasing the intensity of residential development within the CPU area. In this fashion, buildout of the CPU would accommodate the projected population in 2050, as estimated by SANDAG (65,368) (SANDAG 2010b).

Future growth and implementation of the CPU would be supported through ongoing implementation of major programs outlined in the General Plan, which include the following:

- Affordable Housing and Sustainable Buildings Expedite Program (2003), which reduces processing time by up to 50 percent for projects that meet established criteria as affordable/infill projects or sustainable projects; and
- Housing Trust Fund (1990), which utilizes fees collected from nonresidential development to subsidize the construction of affordable housing units.

Buildout of the CPU would require expansion and upgrades to infrastructure, including public services and utilities and transportation/circulation to serve the demands of the increased population. A discussion of impacts to public utilities and services, as well as transportation/circulation, is included in Sections 5.12, 5.13, and 5.14. In addition, implementation of the CPU would provide affordable housing units consistent with the City's objective of increasing the stock of affordable housing, as further discussed under Issue 2, below.

5.16.3.2 Significance of Impacts

Projected population growth, as estimated by SANDAG, would be primarily accommodated in multi-family dwelling units rather than single-family housing, thus substantially increasing the intensity of residential development within the CPU area. While this growth is considered substantial, the CPU would:

- Implement SANDAG's RCP and Regional Housing Element and the City's General Plan and Housing Element by providing a mix of housing types within mixed-use centers linked to public transportation.
- Increase the City's and region's supply of needed housing consistent with SANDAG's regional growth forecast.
- Focus increased housing supply within compact villages conducive to supporting frequent transit service in accordance with the RCP and General Plan goals and policies.

As such, impacts would be less than significant.

For a discussion of the growth inducing effects at the CPU, refer to Section 7.0, Growth Inducement.

5.16.3.3 Mitigation Framework

Impacts are less than significant; therefore, no mitigation is required.

5.16.3.4 Significance After Mitigation

Impacts would be less than significant.

5.16.4 Issue 2: Affordable Housing

Would the land use modifications associated with the CPU not comply with the City's Inclusionary Affordable Housing Ordinance?

5.16.4.1 Impacts

The CPU provides opportunities for a variety of housing types catering to a diversity of economic needs including market rate, work force, and affordable housing. The land use designations and design guidelines contained in the CPU are intended to foster the development of housing for all income levels. The CPU indicates that additional affordable housing is needed within the CPU area to "ensure a diverse mixture of incomes and housing" opportunities (City of San Diego 2013a). After recovering the units displaced by the MSCP, the CPU would result in an increase in housing supply over that which had been planned for in 1981. As shown in Table 5.16-3, approximately 77 percent of the residential dwelling units anticipated at buildout of the CPU would consist of multi-family units. A portion of the increase in residential land use would result from increasing densities in the southwestern portion of the CPU area, the only area designated for residential development in the adopted community plan.

According to 2010 Census data, approximately 50 percent of the households' earnings in the CPU area are at or below the median income for the plan area. By allowing for a variety of density ranges and housing types, the CPU would help to facilitate continued affordable housing production. The very-low and low density designations proposed as part of the CPU, at 0–4 and 5–9 du/ac (respectively), would allow development of single-family detached homes. The low-medium density designation, with 10–14 du/ac, would allow development of multi-plex or attached row homes. The medium designation, at 15–29 du/ac, would allow development of garden style multi-family apartments, typically up to three stories in height. The medium-high density residential designation, at 30–44 du/ac and higher, would allow development of high density multi-family apartment or condominium buildings served by structured or podium parking. As such, the CPU would create a more integrated and balanced community than the adopted community plan.

The City's Housing Element includes goals to "ensure the development of sufficient new housing for all income groups" and "provide affordable housing opportunities consistent with a land use pattern, which promotes infill development and socioeconomic equity;" (City of San Diego 2013b). In accordance with the City's Housing Element, the CPU provides appropriate policies to address the community's affordable housing needs. In support of this goal, the CPU includes Land Use Policy 2.1-2.h, which aims to provide a diversity of housing types that includes market rate and affordable housing, as well as encourage inclusionary housing on-site (City of San Diego 2013a). In addition, Policies 2.2-5 through 2.2-8 promote affordable housing through the development of a variety of housing types, as well as promote the production of low and very low income housing in all areas designated for village and residential uses.

While the increase in housing stock as a result of CPU implementation is considered substantial (approximately 14,500 additional units over 2012 stock; 6,400 over the adopted community plan), this growth would implement the housing goals of SANDAG's RCP and Regional Housing Element and the City's General Plan and Housing Element, not only in terms of quantity, but also diversity and location of residentially designated land. These land use modifications associated with the CPU would also be in compliance with the City's Inclusionary Affordable Housing Ordinance. As such, the CPU would provide affordable housing units consistent with federal and state regulations and the City's objective of increasing the stock of affordable housing impacts to affordable housing; therefore, impacts would be less than significant.

5.16.4.2 Significance of Impacts

It is the intent of the CPU to provide affordable housing within the community. In support of this, the land use designations and design guidelines contained in the CPU are intended to foster the development of housing for all income levels. Of the additional units proposed under the CPU, approximately 77 percent of the residential dwelling units anticipated at buildout of the CPU would consist of multi-family units. In addition, implementation of Policies 2.2-5 through 2.2-8 provide for affordable housing within the community. As such, the CPU would provide affordable housing units consistent with federal and state regulations and the City's objective of increasing the stock of affordable housing impacts to affordable housing; therefore, impacts would be less than significant.

5.16.4.3 Mitigation Framework

Impacts are less than significant; therefore, no mitigation is required.

5.16.4.4 Significance After Mitigation

Impacts would be less than significant.

THIS PAGE IS INTENTIONALLY BLANK.

5.17 Agricultural and Mineral Resources

This section addresses the potential for impacts to agricultural and mineral resources on or within the vicinity of the CPU area.

5.17.1 Existing Conditions

5.17.1.1 Agriculture

a. Otay Mesa Agriculture

Existing agricultural uses within the CPU are located to the south of Otay Mesa Road between Spring Canyon and La Media Road. Agricultural land in the CPU area occupies approximately 306 acres (see Figure 5.1-1). Most of these agricultural uses are not contiguous, and they are not a primary source of economic vitality in the community. While historically a rural farming community, farmland in the CPU area has steadily declined as a result of urbanization and the rising water and labor costs. Agriculture serves as an interim use pending conversion to nonagricultural uses.

The CPU area contains soils that are of relatively poor quality, as described in more detail below. However, the relatively poor soils are partially compensated by the fact that the CPU area lies within a climate zone which is supportive of most vegetable crops and is especially suited to truck crops and tomatoes, as well as flowers, avocados, and citrus crops.

From a topographic standpoint, the areas most suitable for farming within the CPU area are the Otay riverbed and the mesa area. Temperature differentials, particularly in the canyons and riverbeds, restrict farming of frost-sensitive plants. Most of the cultivated mesa and riverbed areas are either relatively flat or managed so that cropping patterns mitigate temperature hazards.

b. Important Farmland Mapping

The Farmland Mapping and Monitoring Program (FMMP) is implemented by the California Department of Conservation, Division of Land Resource Protection, and recognizes the suitability of land for agricultural production. The FMMP is non-regulatory and was developed to inventory land and provide categorical definitions of important farmlands to provide consistent and impartial data to decision makers for use in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. The program does not necessarily reflect local community plan actions, urban needs, changing economic conditions, proximity to market, and other factors which would be taken into consideration when government considers agricultural land use policies. Important Farmland Maps, which are a hybrid of resource quality (soils) and land use

information, are produced by the California Department of Conservation. Agricultural land is rated according to soil quality and irrigation status. The Important Farmland Map Categories are described below.

Prime Farmland. Land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for the production of irrigated crops at some time during the four years prior to the mapping date.

Farmland of Statewide Importance. Land similar to the Prime Farmland but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. In order to be classified as Farmland of Statewide Importance, the land must have been used for the production of irrigated crops at some time during the four years prior to the mapping date.

Unique Farmland. Land of lesser-quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones of California. In order to be classified as Unique Farmland, the land must have been cropped at some time in the four years prior to the mapping date by the Natural Resources Conservation Service (NRCS).

Farmland of Local Importance. Land of importance to the local agricultural economy, as determined by each county's Board of Supervisors and a local advisory committee. The County of San Diego defines Farmland of Local Importance as land that meets all the characteristics of Prime and Statewide Important farmland, with the exception of irrigation.

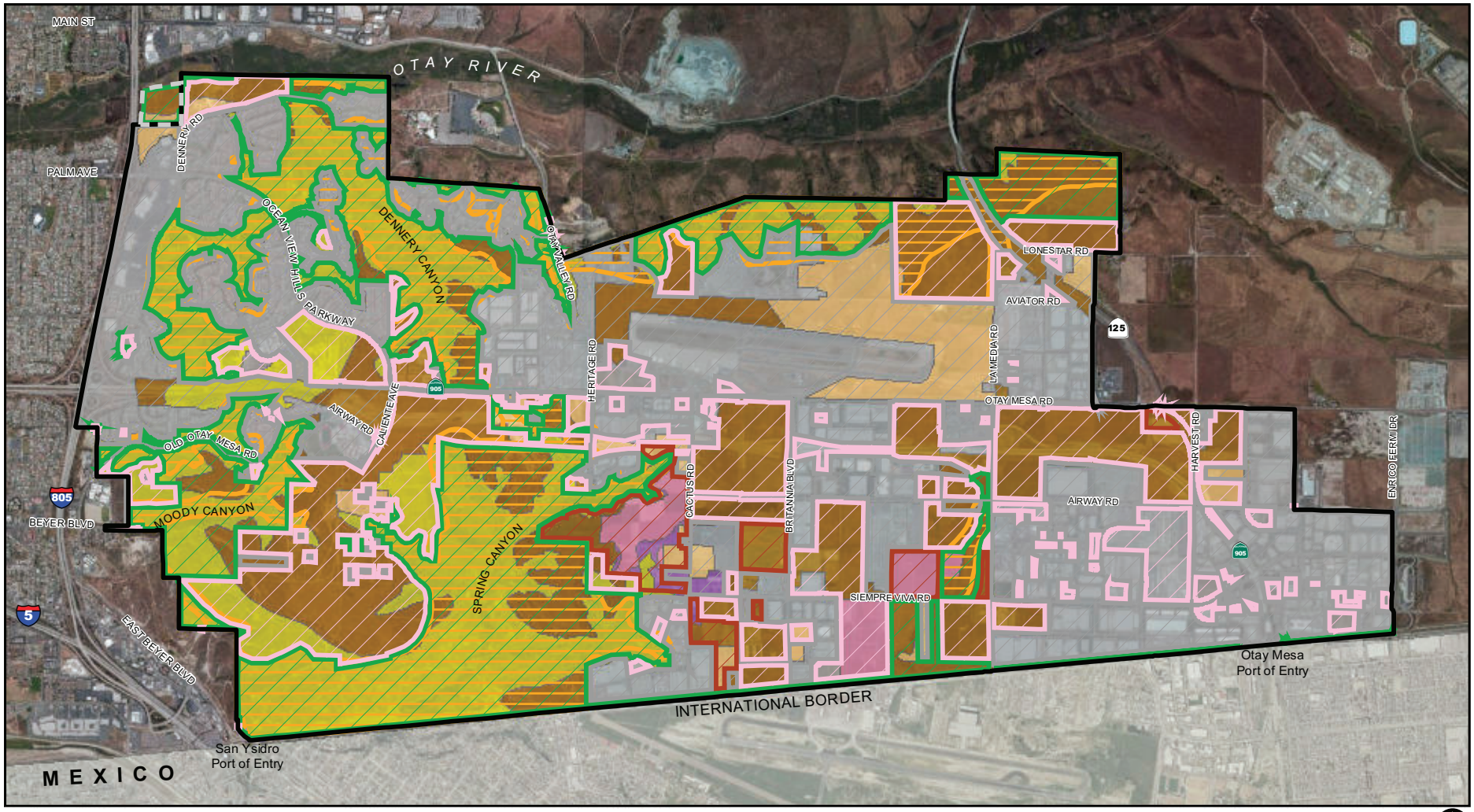
Other Land. Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Grazing Land. This category includes land on which the existing vegetation is suited to the grazing of livestock. This category is used only in California and was developed in cooperation with the California Cattlemen's Association, the University of California Cooperative Extension Service, and other groups interested in knowing the extent of grazing activities.

Urban and Built-Up Land. Land occupied by structures with a building density of at least one unit to one and one-half acres, or approximately six structures per 10 acres.

Figure 5.17-1 illustrates the distribution of the Important Farmlands categories within the CPU area as defined by the California Department of Conservation (2008).

Image source: Copyright 2010 Microsoft, All Rights Reserved (flown May 2010). Data Source: California Department of Conservation, Important Farmland Map Series 2008



M:\JOBS2\3957-1\common_gis\2012\fig5.17-1.mxd 7/22/2013

0 Feet 4,000

Otay Mesa Community Plan Boundary
Not A Part
City of San Diego MHPA

Current Land Use Class

Developed
Existing Farmland
Open Space
Undeveloped

Farmland Mapping and Monitoring Program Designation (2008)

Farmland of Local Importance
Farmland of Statewide Importance
Grazing Land
Other Land
Unique Farmland
Urban and Built Up Land

FIGURE 5.17-1

Important Farmland Mapping

Designated Important Farmlands consists of 192 acres of Farmland of Statewide Importance, 48 acres of Unique Farmland, 2,674 acres of Farmland of Local Importance, and 2,354 acres of Grazing Land (Table 5.17-1). There is no Prime Farmland in the CPU area.

While land is designated within these categories, conditions exist that would preclude these areas from agricultural use and portions of these areas have already been developed in a manner that eliminates the agricultural resource potential. More specifically, the majority of the designated Grazing Land and other FMMP Important Farmlands are located within the MHPA. Grazing and agricultural activities are not permitted in these areas. Grading and development (e.g., Dennery Ranch, SR-905, Ocean View Hills) has resulted in soil compaction and cut/fill of areas mapped as Important Farmlands. Since these designations are based on the ability of underlying soil to grow crops, modifications to the soil that affect its ability to be farmed effectively remove it from being considered an agricultural resource.

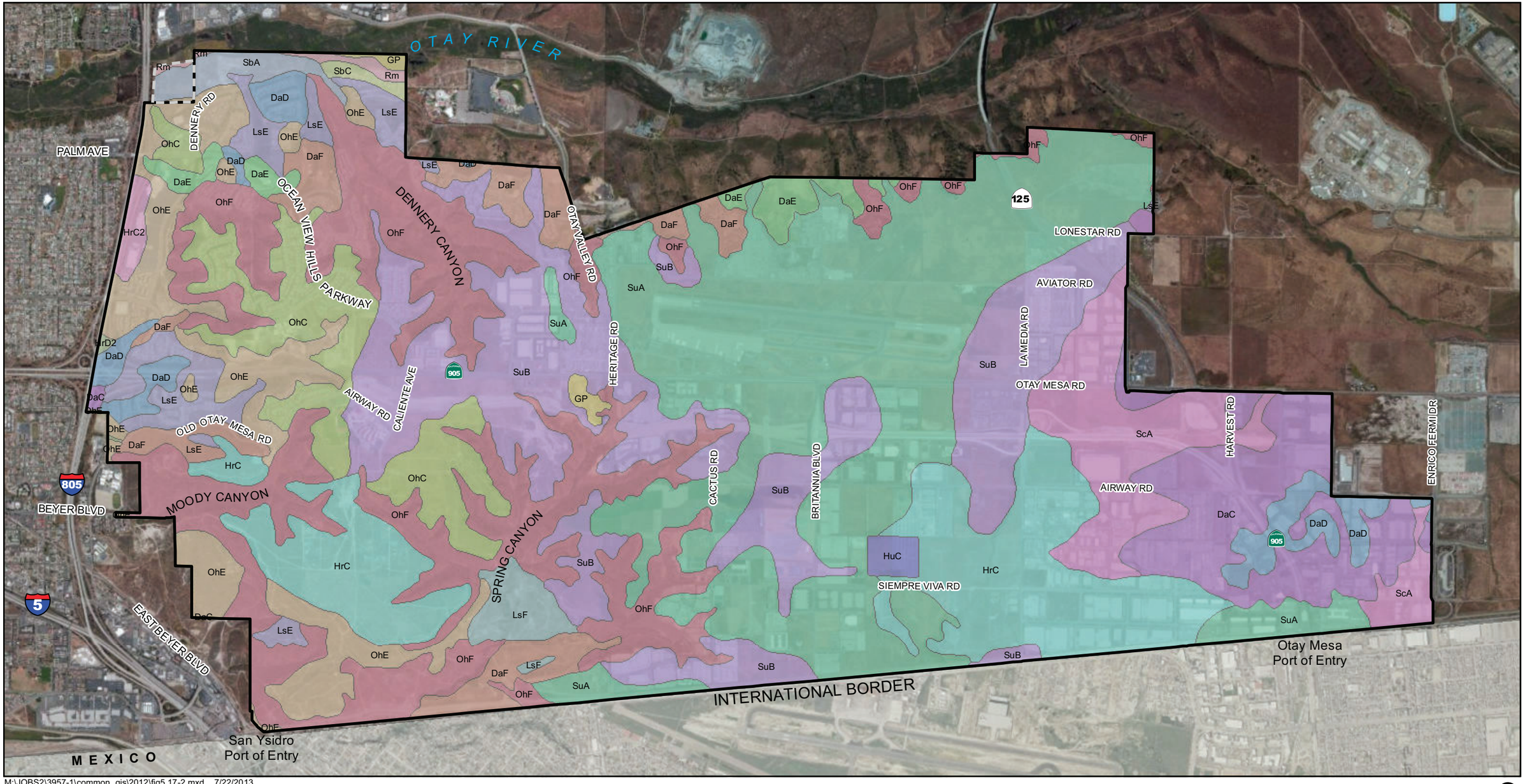
TABLE 5.17-1
IMPORTANT FARMLANDS WITHIN THE CPU AREA

Farmland Category	Total Acres	Open Space	Developed	Existing Farmland in Active Use	Undeveloped
Farmland of Statewide Importance	192	14	2	113	63
Farmland of Local Importance	2,674	707	337	115	1,515
Unique Farmland	48	1	19	28	0
Grazing Land	2,355	1,812	168	17	357
Other Land	548	33	377	33	106
Urban and Built-up Land	3,505	67	3,090	1	347
No Category	5	0	5	0	0
TOTAL	**9,326**	**2,633**	**3,996**	**306**	**2,389**

c. Soil Suitability for Agriculture

The USDA, NRCS developed a system to generally classify soil types and has published a soil survey for the San Diego area. The survey is used to determine the location and extent of the soil types found within the CPU area (listed in Table 5.17-2), which are shown on Figure 5.17-2. The land capability classification describes soil types, their physical characteristics and limitations, and their suitability for agriculture and other uses.

Image source: Copyright 2010 Microsoft, All Rights Reserved (flown May 2010).



M:\JOBS2\3957-1\common_gis\2012\fig5.17-2.mxd 7/22/2013

0 Feet 2,500

Otay Mesa Community Plan Boundary

Not A Part

Soil Type

- Diablo clay, 15 to 30 percent slopes, DaE
- Diablo clay, 2 to 9 percent slopes, DaC
- Diablo clay, 30 to 50 percent slopes, DaF
- Diablo clay, 9 to 15 percent slopes, DaD
- Gravel pits, GP
- Huerhuero loam, 2 to 9 percent slopes, HrC
- Huerhuero loam, 5 to 9 percent slopes, eroded, HrC2
- Huerhuero loam, 9 to 15 percent slopes, eroded, HrD2
- Huerhuero-Urban land complex, 2 to 9 percent slopes, HuC
- Linne clay loam, 30 to 50 percent slopes, LsF
- Linne clay loam, 9 to 30 percent slopes, LsE
- Olivenhain cobbly loam, 2 to 9 percent slopes, OhC
- Olivenhain cobbly loam, 30 to 50 percent slopes, OhF
- Olivenhain cobbly loam, 9 to 30 percent slopes, OhE
- Riverwash, Rm
- Salinas clay loam, 0 to 2 percent slopes, SbA
- Salinas clay loam, 2 to 9 percent slopes, SbC
- Salinas clay, 0 to 2 percent slopes, ScA
- Stockpen gravelly clay loam, 0 to 2 percent slopes, SuA
- Stockpen gravelly clay loam, 2 to 5 percent slopes, SuB

FIGURE 5.17-2

Soil Types

THIS PAGE IS INTENTIONALLY BLANK.

TABLE 5.17-2
CPU SOIL RESOURCES

Soil Type/ Symbol	Soil Description	Number of Acres	% of CPU Area	Storie Index	Storie Index Score
DaC^	Diablo clay, 2 to 9 percent slopes	530	5.7	42	2.388
DaD^	Diablo clay, 9 to 15 percent slopes	219	2.4	37	0.870
DaE	Diablo clay, 15 to 30 percent slopes	115	1.2	30	0.370
DaF	Diablo Clay, 30 to 50 percent slopes	338	3.6	13	0.472
GP	Gravel pits	24	0.3	0	0.000
HrC^	Huerhuero loam, 2 to 9 percent slopes	936	10.0	41	4.117
HrC2^	Huerhuero loam, 5 to 9 percent slopes, eroded	33	0.4	38	0.134
HrD2	Huerhuero loam, 9 to 15 percent slopes, eroded	4	0.0	36	0.016
HuC	Huerhuero-Urban land complex, 2 to 9 percent slopes	31	0.3	0	0.000
LsE	Linne clay loam, 9 to 30 percent slopes	222	2.4	14	0.333
LsF	Linne clay loam, 30 to 50 percent slopes	91	1.0	6	0.058
OhC	Olivenhain cobbly loam, 2 to 9 percent slopes	479	5.1	29	1.489
OhE	Olivenhain cobbly loam, 9 to 30 percent slopes	534	5.7	20	1.146
OhF	Olivenhain cobbly loam, 30 to 50 percent slopes	1,517	16.3	10	1.628
Rm	Riverwash	18	0.2	1	0.002
ScA*	Salinas clay, 0 to 2 percent slopes	475	5.1	73	3.725
SbA*	Salinas clay loam, 0 to 2 percent slopes	53	0.6	81	0.463
SbC*	Salinas clay loam, 2 to 9 percent slopes	18	0.3	62	0.121
SuA^	Stockpen gravelly clay loam, 0 to 2 percent slopes	2,179	23.3	36	8.388
SuB^	Stockpen gravelly clay loam, 2 to 5 percent slopes	1,503	16.1	34	5.441
TOTAL		**9,319**	**100**	**----**	**31.16**

^Farmland of Statewide Importance Soil.
*Prime Farmland Soil.

One of the most commonly used ways to classify the value of agricultural soils is the Storie Index, which expresses numerically the relative degree of suitability and grade of a soil for intensive agriculture based on soil characteristics. Soils of grade 1 (i.e., with a Storie Index of 80 to 100) have few or no limitations restricting their use for crops, whereas at the other end of the scale, grade 6 (i.e., index rating of less than 10) consists of soils that generally are not suited to farming. Table 5.17-2 lists the acreage of the soils found within the CPU area along with each soil's corresponding Storie Index. An overall Storie Index score for the CPU area can be determined by taking the Storie index score multiplied by the percentage of the site that contains each soil type, then summing the scores. The overall Storie Index score for the CPU area is 31.16 (maximum score is 100), which means that the overall soil quality is relatively poor.

The California Department of Conservation maintains a soil candidate listing for prime agricultural soils (this term is not synonymous with Prime Farmland). Within the CPU area, the Salinas series of soils (ScA, SbA, and SbC) are listed as being prime soils for San Diego County. As listed in Table 5.17-2, there are 546.9 acres (6 percent of the CPU area) of prime soils within the CPU area. The majority of the prime soils and soils of statewide importance are located within the central and southeastern portions of the CPU area, which are significantly built out or limited by airport uses.

d. Regulatory Framework

California Land Conservation (Williamson) Act

The California Land Conservation Act of 1965, also referred to as the Williamson Act, is an agricultural protection program that currently protects more than 16 million of the state's 30 million acres of farm and ranch land. Under the act, a private landowner may voluntarily enter into a rolling term 10-year contract with the local government for the purpose of restricting specific parcels of land to agricultural or compatible open space use. Lands must be located within an agricultural preserve area and be a minimum of 100 acres in size unless a smaller size is authorized by the local government. There are no active Williamson Act contracts or properties within the CPU area.

Right-to-Farm Act

California Civil Code §3482.5, "The Right to Farm Act" or California Agricultural Protection Act provides, among other measures, that:

> No agricultural activity, operation, or facility, or appurtenances thereof, conducted or maintained for commercial purposes, and in a manner consistent with proper and accepted customs and standards, as established and followed by similar agricultural operations in the same locality, shall be or become a nuisance, private or public, due to any changed condition in or about the locality, after it has been in operation for more than three years if it was not a nuisance at the time it began.

The act shall prevail over any contrary provision of any ordinance or regulation of any city, county, or other political subdivision of the state but may be amended by the local governing jurisdiction, to provide for notification to prospective homeowners who may be affected by agricultural operations in close proximity. Although agriculture is listed as an interim use within the CPU area, the Right-to-Farm Act would still be applicable for all existing agricultural operations.

City of San Diego Land Development Code

Only two zones in the City allow for agricultural use by right; Open Space-Residential (OR-1-2) and Open Space-Floodplain (OF). The CPU area includes the OF zone along the Otay River Valley. No OR-1-2 zone exists within the CPU area. The area along the Otay River Valley is not currently in agricultural use and would not be viable for agricultural use considering the site conditions and proximity to residences.

Adopted Otay Mesa Community Plan

The 1981 Community Plan identified that approximately 3,900 acres within the CPU area were under cultivation. Agricultural use is allowed by the adopted community plan on an

interim basis only. The adopted Otay Mesa Community Plan contains one objective pertaining to agriculture: "to retain agriculture until development is warranted." With the development of land per the adopted land uses, agricultural activities would be eliminated.

5.17.1.2 Mineral Resources

a. State of California

Since mineral resources including sand and gravel have been and continue to be vital to California's economy, the state adopted the Surface Mining and Reclamation Act (SMARA) of 1975 and developed a number of programs to ensure the long-term availability of mineral resources to the people of the state and nation.

California Department of Conservation

The California Department of Conservation provides services and information that promote environmental health, economic vitality, informed land use decisions, and sound management of the state's mineral resources. The California Department of Conservation includes the California Geological Survey (CGS) (formerly Division of Mines and Geology), State Mines and Geology Board (SMGB), and Office of Mine Reclamation (OMR), which together provide information and oversight for the varied mining resources and permitted mining operations within the state.

As part of the classification process, the CGS established a "Production-Consumption" (P-C) Region in western San Diego County. The P-C Region includes the areas of highest population and urbanization in western San Diego County and defines the resources therein.

Within the P-C Region, Mineral Resource Zones (MRZs) are identified. In conformance with guidelines set forth in SMARA and the related "Guidelines for Classification and Designation of Mineral Lands," areas are categorized into four MRZs for the region's aggregate resources only. The following is a definition of the zones as presented in Special Report 153 (State of California 1982) with additional discussion of significant mineral deposit resources that occur within the CPU area:

MRZ-1 Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that there is little likelihood for their presence.

MRZ-2 Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that there is a high likelihood for their presence. MRZ-2 areas are made up of four types of deposits which lie within the western San Diego County Region. These are Quaternary river channel and floodplain deposits, Tertiary and Quaternary conglomerate and alluvial fans, Cretaceous granitic rocks, and Jurassic metavolcanic rocks.

MRZ-3 Areas containing mineral deposits, the significance of which cannot be evaluated from available data.

MRZ-4 Areas where available information is inadequate for assignment to any other MRZ zone.

Of the four categories discussed above, lands classified as MRZ-2 are of the greatest importance because significant mineral resources underlie them. Of the mineral resources identified within MRZ-2, the most economically valuable to the state and San Diego region is by far the mining of sand, gravel, and crushed rock resources. These resources are known collectively as construction aggregate. Construction aggregate is important to the local construction industry for use in concrete (especially PCC-grade aggregate), fill, road base, and building materials.

b. CPU Area

The entire CPU area is classified as either MRZ-2 or MRZ-3, which includes lands of "identified mineral resource significance" and those containing mineral deposits that have not been adequately tested to determine the significance of the materials present, respectively. MRZ-2 lands exist within the northwest portion of the CPU area along the Otay River and consist of approximately 330 acres. MRZ-3 lands exist within all remaining portions of the CPU area and comprise approximately 9,000 acres.

5.17.2 Significance Determination Thresholds

Based on the City's CEQA Significance Thresholds, impacts related to agricultural and mineral resources would be significant if the CPU would:

1. Convert a substantial amount of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

2. Change the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use.

3. Result in the loss of availability of a significant mineral resource (e.g., sand or gravel) as identified in the Open File Report 96-04, Update of Mineral Land Classification: Aggregate Materials in the Western San Diego County Production – Consumption Region, 1996, Department of Conservation, California Department of Geological Survey.

5.17.3 Issue 1: Conversion of Agricultural Land

Would the land use modifications associated with the CPU result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

5.17.3.1 Impacts

Buildout of the CPU would eventually eliminate all agricultural activity that occurs within the CPU area. This includes the 306 acres of active farmland located in the area between Spring Canyon and La Media Road. It should be noted that, as described in Section 3.5, the Central Village would be rezoned to an agricultural zone. The agricultural zone would be used as a "holding zone" until greater specificity is proposed by the property owners within the Specific Plan area per the Land Use Element of the CPU. It is anticipated that agricultural operations on the 306 acres of active farmland would continue to be viable in the near-term under the holding zone designation, but are considered to be permanently converted under the long-term buildout of the CPU.

As of November 2012, the most currently available FMMP data is from 2008. Therefore, some lands, which have been developed with non-agricultural uses, are still designated as Important Farmland (see Table 5.17-2). As shown in Table 5.17-3, additional lands currently designated as Important Farmland would be converted as a result of the CPU. CPU impacts would include the additional conversion of 180 acres of Farmland of Statewide Importance, 28 acres of Unique Farmland, 1,486 acres of Farmland of Local Importance, and 295 acres of Grazing Land.

TABLE 5.17-3
CPU IMPACTS TO IMPORTANT FARMLANDS

Farmland Category	Total Acres	Proposed Open Space	Existing Developed Areas	CPU Impacts
Prime Farmland	0	0	0	0
Farmland of Statewide Importance	192	10	2	180
Farmland of Local Importance	2,674	851	337	1,486
Unique Farmland	48	1	19	28
Grazing Land	2,355	1,892	168	295
Other Land	548	33	377	139
Urban and Built-up Land	3,505	75	3,090	340
No Category	5	0	5	0
TOTAL	**9,326**	**2,862**	**3,996**	**2,468**

As shown in Figure 5.17-1, the existing areas mapped as Important Farmland are not contiguous and are surrounded by urban land uses and MHPA lands. This condition,

combined with the high cost of water, has impacted the viability of agricultural uses in the CPU area.

5.17.3.2 Significance of Impacts

Although the CPU would convert additional Important Farmland to non-agricultural uses, these areas are fragmented and are surrounded by urban land uses and MHPA lands. Rising land values, water costs, increasing taxes, habitat management planning, and other land use conflicts have contributed to a significant reduction in future agricultural viability within the CPU area. Furthermore, agricultural land in the CPU area is intended as an interim, rather than permanent use. The CPU allows agriculture as an interim use pending development and would rezone the Central Village to an agricultural "holding" zone to accommodate continued agricultural operations until such time that a Specific Plan is implemented. Therefore, impacts associated with the conversion of agricultural land to non-agricultural uses would be less than significant.

5.17.3.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation would be required.

5.17.3.4 Significance After Mitigation

Impacts would be less than significant.

5.17.4 Issue 2: City and Regional Consequences of Agricultural Land Conversion

Would the CPU result in changes to the existing environment, which due to their location or nature, could result in the conversion of farmland to non-agricultural use?

5.17.4.1 Impacts

Existing agricultural uses occur sporadically throughout the CPU area. Of the 3,900 acres listed in the 1981 Community Plan designated to be retained as agriculture until development is warranted, 306 acres mapped as active agricultural land remain (SANDAG 2009). This would represent only a tenth of one percent (0.1 percent) of the total acreage under cultivation within the County. As such, conversion would not be significant in terms of countywide agricultural value. Because these acres are such a small portion of the regional agricultural production and have limited agricultural viability, impacts would be less than significant.

5.17.4.2 Significance of Impacts

The CPU would result in the conversion of all the existing agriculture in the CPU area. However, viability of this area for agricultural use is limited, and the amount of existing farmland is minimal relative to the regional total. Thus, implementation of the CPU would have a less than significant regional impact to agriculture.

5.17.4.3 Mitigation, Monitoring, and Reporting

Impacts would be less than significant; therefore, no mitigation would be required.

5.17.4.4 Significance After Mitigation

Impacts would be less than significant.

5.17.5 Issue 3: Mineral Resources

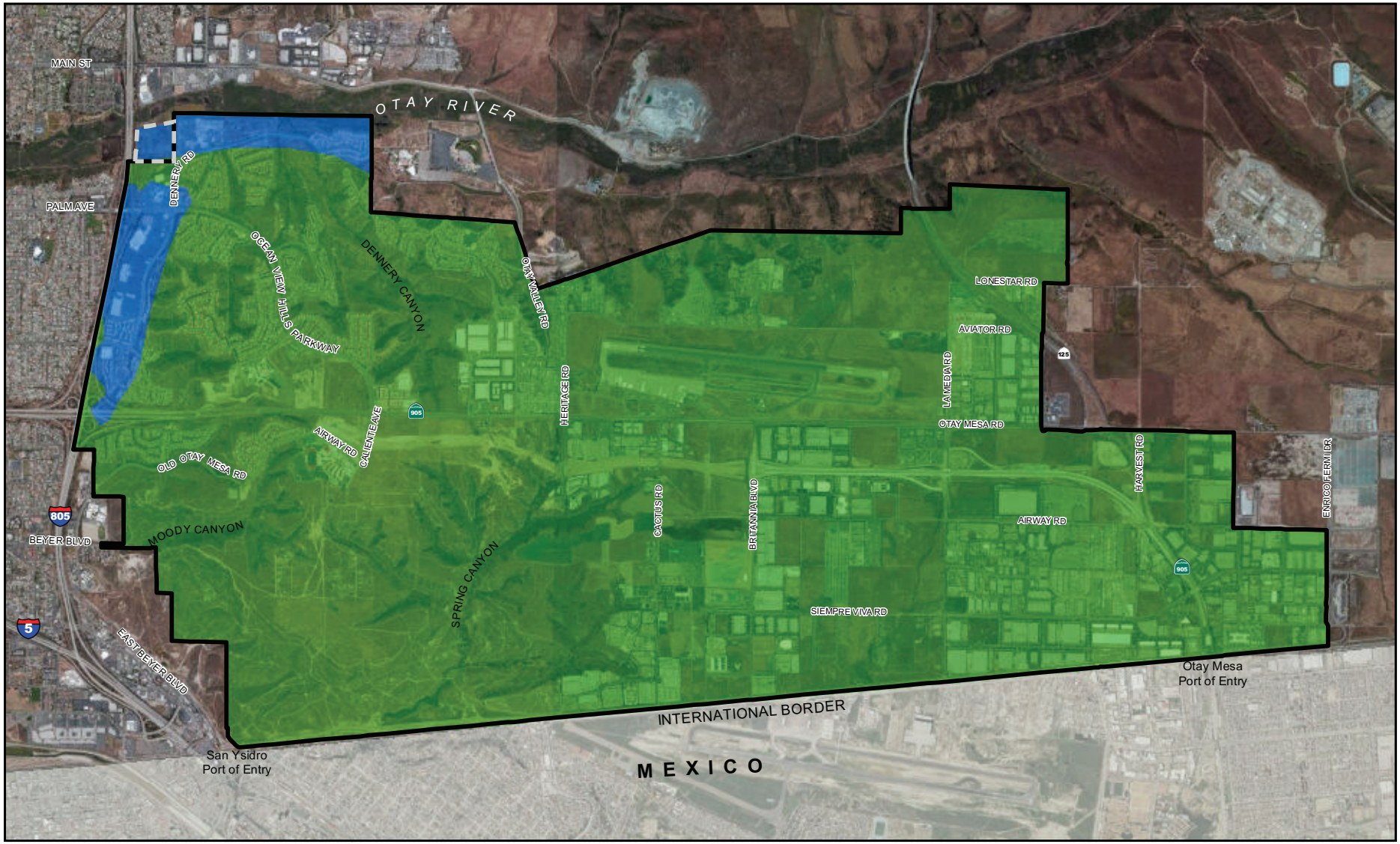
Would implementation of the CPU result in the loss of availability or prevention of future extraction of sand or gravel, and/or mineral resources as identified in the Open File Report 96-04, Update of Mineral Land Classification: Aggregate Materials in the Western San Diego County Production – Consumption Region, 1996, Department of Conservation, California Department of Geological Survey?

5.17.5.1 Impacts

The loss of access to mineral resources would primarily be the result of the conversion of lands underlain by these resources, or within close proximity to the resources such that future projects would restrict or eliminate safe and environmentally sound measures to implement extractive operations.

There are 353 acres of MRZ-2 “regionally significant” aggregate resource areas within the CPU area (Figure 5.17-3) which exist within the northwestern portion of the CPU area where development currently exists or where entitlements have already been approved for future development. Therefore, access to these areas of significant aggregate is already restricted, which precludes the likelihood of extraction of those resources. Furthermore, the surrounding residential and commercial development in close proximity to this area would not be compatible with the extraction processes. Objectionable characteristics that accompany this process include noise, vibration, air pollution, dust, heavy trucks causing traffic congestion, and often significant visual impacts. Additionally, as described in Section 5.17.1.2, above, the remainder of the CPU area is classified as MRZ-3, which is not considered a significant mineral resource pursuant to the City of San Diego’s Significance Determination Thresholds.

Image source: Copyright 2010 Microsoft, All Rights Reserved (flown May 2010).



M:\JOBS2\3957-1\common_gis\2012\fig5.17-3.mxd 7/29/2013

0 Feet 4,000

Otay Mesa Community Plan Boundary

Not A Part

Mineral Resource Zones

Zone 2 (Regionally Significant)

Zone 3

FIGURE 5.17-3

Mineral Resources

No mining activities are currently occurring within the CPU area. However, a concrete batch plant is currently operating within the CPU and is not considered a formal mining activity. The Hanson Aggregates Otay Ranch Pit is located off-site, approximately three-quarters of a mile to the north of the CPU boundary and north of the Otay River Valley. Because of the distance and its location north of the river, there would be no indirect impacts to off-site mining activities as a result of the CPU implementation.

5.17.5.2 Significance of Impacts

Portions of the CPU area where MRZ-2 “regionally significant” aggregate resource areas exist are currently developed or where entitlements have already been approved for future development. These existing and planned developments restrict access to these aggregate areas and preclude the ability to extract those resources. Further, the majority of the acreage designated as MRZ-2 contains existing residential uses, which would be incompatible with extraction operations even under the adopted community plan. No mining activities are currently present within the CPU area and development would not have any indirect impacts to extraction operations in the vicinity. MRZ-3 mineral resources are not considered a significant mineral resource. As such, the ability to extract mineral resources would not be impacted with the adoption of the CPU.

5.17.5.3 Mitigation Framework

Impacts would be less than significant; no mitigation is required.

5.17.5.4 Significance After Mitigation

Impacts would be less than significant.

THIS PAGE IS INTENTIONALLY BLANK.

5.18 Greenhouse Gas Emissions

The following greenhouse gas emissions analysis is based on the Greenhouse Gas Emissions Analysis prepared by RECON in February 2013. The complete analysis is included as Appendix N.

5.18.1 Existing Conditions

5.18.1.1 Greenhouse Gas Inventories

a. Statewide GHG Emissions

Statewide GHG inventories performed by the California Air Resources Board (CARB) over the past two decades report that statewide GHG emissions totaled 433 million metric tons of carbon dioxide equivalent emissions ($MMTCO_2E$) in 1990, 458 $MMTCO_2E$ in 2000, 484 $MMTCO_2E$ in 2004, and 478 $MMTCO_2E$ in 2008 (CARB 2010b). Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

b. Plan Area GHG Emissions

The CPU area is currently a source of anthropogenic GHGs, with emissions generated by vehicular traffic and by the energy use, water use, and solid waste disposal practices of the existing buildings. Quantification of the existing GHG emissions from CPU area land uses and associated traffic was performed using the California Emissions Estimator Model (CalEEMod), which was released in March 2011 (SCAQMD 2011).

The results of the CalEEMod analysis indicate that the existing CPU area land uses are currently generating approximately 2,611,312 $MTCO_2E$ annually as shown in Table 5.18-1 below.

TABLE 5.18-1
CPU AREA GHG EMISSIONS IN 2012
($MTCO_2E$ PER YEAR)

Emission Source	Existing GHG Emissions
Vehicles	612,398
Energy Use	195,730
Area Sources	0
Water Use	916,242
Solid Waste Disposal	886,942
TOTAL	**2,611,312**

$MTCO_2E$ = metric tons of carbon dioxide equivalent emissions

5.18.1.2 Consequences of Global Climate Change

The potential consequences of global climate change on the San Diego region are far reaching. The Climate Scenarios Analysis Report, published in 2006 by the California Climate Change Center, predicts that throughout the state and the region, global climate and local microclimate changes could cause an increase in extreme heat days; higher concentrations, frequency, and duration of air pollutants; an increase in wildfires; more intense coastal storms; sea level rise; impacts to water supply and water quality through reduced snowpack and saltwater influx; public health impacts; impacts to near-shore marine ecosystems; reduced quantity and quality of agricultural products; pest population increases; and altered natural ecosystems and biodiversity.

CARB projected a future statewide GHG emissions increase of more than 23 percent (from 2004) by 2020 given Business as Usual (BAU) trends (CARB 2008a). BAU emissions are the GHG emissions that would be expected to occur in the absence of GHG-reduction measures (including local and state regulations) or mitigation. Year 2020 estimates of California's GHG emissions have been updated to account for new estimates for future fuel and energy demand as well as other factors including the economic downturn. More recent estimates predict a future statewide emissions increase of approximately 7 percent (from 2008) by 2020 given current trends (CARB 2012). The 2008 Energy Policy Initiative Center (EPIC) study predicted a countywide increase to 43 $MMTCO_2E$, or roughly 20 percent (from 2006) by 2020, given a BAU trajectory. Updated estimates are not available, but would be less than 20 percent for the same reasons.

5.18.1.3 Existing Regulatory Framework

Local and state regulatory plans aim to reduce state and local GHG emissions by primarily targeting the largest emitters of GHGs: the transportation and energy sectors. These plans' goals and regulatory standards are thus largely focused on the automobile industry and public utilities. For the transportation sector, the reduction strategy is generally three pronged: to reduce GHG emissions from vehicles by improving engine design; to reduce the carbon content of transportation fuels through research, funding, and incentives to fuel suppliers; and to reduce the miles vehicles traveled (VMT) through land use change and infrastructure investments. The types of land use changes that can measurably reduce GHG emissions associated with vehicle use include: increased density; increased diversity (mixed-use); improved walkability design; improved transit accessibility; transit improvements; integration of below market-rate housing; and constrained parking.

By increasing density, especially within proximity of transit, travel distances are affected and greater options for the mode of travel they choose are provided. This can result in a substantial reduction in VMT depending on the change in density compared to a typical suburban residential density (California Air Pollution Control Officers Association [CAPCOA]

2010). By increasing transit accessibility and locating a high-density project near transit for example, a shift in travel mode is facilitated along with reduced VMT.

Constraining parking supply, either through policy changes (e.g., reduced parking requirements for urban areas) or through pricing, and/or preferential parking for ridesharing and fuel-efficient vehicles, can also result in a decrease in VMT, as motorists shift away from single-occupancy vehicle travel and carpool, and rely more on transit or elect to walk or bicycle instead. The effectiveness of these land use strategies ranges from less than one percent up to a maximum 30 percent reduction in communitywide VMT (CAPCOA 2010).

For the energy sector, the reduction strategies of local, state, and national plans aim to reduce energy demand; impose emission caps on energy providers; establish minimum building energy and green building standards; transition to renewable non-fossil fuels; incentivize homeowners and builders; fully recover landfill gas for energy; and expand research and development. At the project-level, policies or incentive programs for builders to exceed the current Title 24 energy efficiency standards, install high-efficiency lighting, and energy-efficient plug-in appliances (for energy users not subject to Title 24), and to incorporate on-site renewable energy generation, can result in substantial GHG emissions reductions, up to 35 percent or more.

Energy use associated with water consumption and wastewater treatment can also be reduced by applying an overall water reduction strategy (e.g., of 20 percent on indoor and outdoor water use) and/or policies and actions related to using reclaimed and gray water, installation of low-flow plumbing fixtures, the use of water-efficient landscape design, including turf reduction and use of water-efficient irrigation systems. The institution of recycling and composting services can also reduce the energy embodied in the disposal of solid waste.

In addition to strategies aimed at reducing GHG emissions associated with vehicle and energy use, relevant local and state plans include GHG reduction strategies aimed at reducing the heat island effect through urban forestry and shade tree programs, and therefore energy-for-cooling demand. GHG reduction strategies also reduce area source emissions from woodstoves and fireplaces through stricter restrictions on fuel type and use, as well as landscaping equipment, such as use of only electric-powered lawn mowers, leaf blowers, and chain saws.

Climate adaptation, which generally acknowledges that GHG emissions cannot fully be avoided and that climate change is occurring over time, includes policies and strategies to increase climate adaptability and resilience through climate-sensitive building guidelines (e.g., through appropriate building orientation and glazing design), sea-level monitoring, and defensible building design.

There are numerous plans, policies, and regulations aimed at reducing GHG emissions. They exist at the international level, national, state and local levels. The discussion below is

focused on the key state and local regulations affecting GHG emissions analyses of land development projects. Greater detail on these and other GHG-related regulations, including international and national regulations, is provided in the GHG technical report (Appendix N).

a. State

EO S-3-05—Statewide GHG Emission Targets

This 2005 executive order (EO) established the following GHG emission reduction targets for the state of California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020 reduce GHG emissions to 1990 levels;
- by 2050 reduce GHG emissions to 80 percent below 1990 levels.

It also directed the secretary of the California EPA (CalEPA) to oversee efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets, on the impacts to the state related to global warming, and on mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006 and has been updated every two years.

AB 32—California Global Warming Solutions Act

In response to EO S-3-05, the California legislature passed AB 32, the "California Global Warming Solutions Act of 2006." It required CARB to adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. It also required CARB to adopt a plan indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

As directed, in December 2007 CARB approved a 2020 emission limit of 427 $MMTCO_2E$; and the following year completed a Climate Change Scoping Plan (Scoping Plan).

Climate Change Scoping Plan

The Scoping Plan includes strategies and reduction measures to reduce statewide GHG emissions to 1990 levels by 2020. The reduction measures would achieve an approximate 174 $MMTCO_2E$ reduction in GHG emissions, for approximately 29 percent less than the state's projected 2020 emission level of 596 $MMTCO_2E$ under a BAU scenario. CARB will update the Scoping Plan at least once every five years to allow evaluation of progress made and to correct the Scoping Plan's course where necessary.

Table 5.18-2 summarizes the reduction measures CARB identified as necessary to reduce forecasted BAU 2020 emissions to target levels. As indicated in Table 5.18-2, the majority of reductions is directed at the sectors with the largest GHG emissions contributions—transportation and electricity generation—and involve statutory mandates affecting vehicle

or fuel manufacture, public transit, and public utilities. To address emissions from vehicles, CARB is proposing a comprehensive three-prong strategy: reducing GHG emissions from vehicles, reducing the carbon content of the fuel these vehicles burn, and reducing the miles these vehicles travel.

To address emissions from energy use, the Scoping Plan includes enhanced energy-efficiency programs that provide incentives for customers to purchase and install more efficient products; building and appliance standards to ensure that manufacturers and builders bring improved products to market; and renewable energy mandates for public utilities. Over the long-term, the recommended measures will increase the amount of electricity from renewable energy sources and improve the energy efficiency of industries, homes, and buildings. While energy efficiency would account for the largest GHG reductions, other applicable land development measures such as water conservation and waste reduction would achieve additional energy emissions reduction.

Several Scoping Plan measures have been adopted as mandatory requirements in statewide regulations. The ones of most relevance to this analysis include the Pavley GHG Vehicle Standards, the Low Carbon Fuel Standards, and the Renewables Portfolio Standard.

TABLE 5.18-2
CARB SCOPING PLAN-RECOMMENDED GHG REDUCTION MEASURES

Recommended Reduction Measures	Reductions Counted Towards 2020 Target In $MMTCO_2E$ (% total) [2]
ESTIMATED REDUCTIONS RESULTING FROM THE COMBINATION OF CAPPED SECTORS AND COMPLEMENTARY MEASURES	**146.7**
California Light-Duty Vehicle Greenhouse Gas Standards • Implement Pavley Standards • Develop Pavley II light-duty vehicle standards	31.7 (22%)
Energy Efficiency • Building/appliance efficiency, new programs, etc. • Increase CHP generation by 30,000 GWh • Solar Water Heating (AB 1470 goal)	26.3 (18%)
Renewables Portfolio Standard (RPS) (33% by 2020)	21.3 (14%)
Low Carbon Fuel Standard	15 (10%)
Regional Transportation-related GHG Targets[1]	5 (4%)
Vehicle Efficiency Measures	4.5 (3%)
Goods Movement • Ship Electrification at Ports • System-Wide Efficiency Improvements	3.7 (3%)
Million Solar Roofs	2.1 (2%)
Medium/Heavy Duty Trucks • Heavy-Duty Vehicle Greenhouse Gas Emissions Reduction (Aerodynamic Efficiency) • Medium- and Heavy-Duty Vehicle Hybridization	1.4 (<1%)
High Speed Rail	1.0 (<1%)
Industrial Measures (for sources covered under cap & trade program) • Refinery Measures • Energy Efficiency and Co-Benefits Audits	0.3 (<.5%)
Additional Reductions Necessary to Achieve the Cap	34.4 (23%)
ESTIMATED REDUCTIONS RESULTING FROM UNCAPPED SECTORS	**27.3**
Industrial Measures (for sources not covered under cap & trade program) • Oil and Gas Extraction and Transmission	1.1
High Global Warming Potential Gas Measures	20.2
Sustainable Forests	5.0
Recycling and Waste (landfill methane capture)	1.0
TOTAL REDUCTIONS COUNTED TOWARDS 2020 TARGET	**174**[3]

SOURCE: Table 2 of CARB 2008b.

[1] This number represents an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target. CARB will establish regional targets for each Metropolitan Planning Organization following input of the Regional Targets Advisory Committee and a public stakeholders consultation process per SB 375.

[2] Percentages are relative to the capped sector subtotal of 146.7 $MMTCO_2E$, and may not total 100 due to rounding.

[3] The total reduction for the recommended measures slightly exceeds the 189 MMTCO2E of reductions estimated in the BAU 2020 Emissions Forecast. This is the net effect of adding several measures and adjusting the emissions reduction estimates for some other measures.

AB 1493—Pavley GHG Vehicle Standards

AB 1493 (Pavley) enacted July 2002, directed CARB to adopt vehicle standards that lowered GHG emissions from passenger vehicles and light duty trucks to the maximum extent technologically feasible, beginning with the 2009 model year. However, due to a lawsuit by the Alliance of Automobile Manufacturers, their eventual implementation did not get authority until June 2009. These regulations were expected to reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and are further expected to reduce emissions by about 30 percent in 2018 (CARB 2010c) for a total reduction of 31.7 $MMTCO_2E$ counted toward the total statewide reduction target (CARB 2008b) (see Table 5.18-2). These reductions are to come from improved vehicle technologies such as small engines with superchargers, continuously variable transmissions, and hybrid electric drives.

CARB has adopted a second, more stringent, phase of the Pavley regulations, termed "Pavley II" [now known as "Low Emission Vehicle III GHG"], that covers Model Years 2017 to 2025. Pavley II was estimated in 2008 to add an additional reduction of 4.0 $MMTCO_2E$ for 2 percent of the estimated 174 $MMTCO_2E$ reduction total.

EO S-01-07—Low Carbon Fuel Standard

The Low Carbon Fuel Standard (LCFS) is the means by which the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020. CARB adopted the LCFS as a discrete early action measure pursuant to AB 32 in April 2009. The LCFS is a performance standard with flexible compliance mechanisms intended to incentivize the development of a diverse set of clean, low-carbon transportation fuel options. Its aim is to accelerate the availability and diversity of low-carbon fuels such as biofuels, electricity, and hydrogen, by taking into consideration the full life-cycle of GHG emissions. A 10 percent reduction in the intensity of transportation fuels is expected to equate to a reduction of 18.5 $MMTCO_2E$ in 2020. However, in order to account for possible overlap of benefits between LCFS and the Pavley GHG standards, CARB has discounted the contribution of LCFS to 15 $MMTCO_2E$ (CARB 2008b).

Renewables Portfolio Standard

The Renewables Portfolio Standard (RPS) promotes diversification of the state's electricity supply. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020, the goal has been accelerated and increased; most recently by EO S-14-08 and EO S-21-09 to a goal of 33 percent by 2020. Its purpose is to achieve a 33 percent renewable energy mix statewide, where 33 percent of the state's electricity needs would be met by renewable energy sources by 2020 (CARB 2008b). Increasing the RPS to 33 percent is meant to accelerate the transformation of the electricity sector, through investment in the transmission infrastructure and systems changes to allow integration of large quantities of intermittent wind and solar generation. Renewable energy includes (but is

not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. Increased use of renewables would decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector. CARB estimates that full achievement of the RPS would decrease statewide GHG emissions by 21.3 $MMTCO_2E$ (CARB 2008b).

SB 375—Regional Emissions Targets

SB 375 was signed in September 2008 requiring CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Regional Transportation-Related GHG Target Scoping Plan measure. Its purpose is to align regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation in order to reduce GHG emissions by promoting high-density, mixed-use developments around mass transit hubs.

CARB, in consultation with the state's Metropolitan Planning Organizations (MPOs), was required to provide each affected region with passenger vehicle GHG emissions reduction targets for 2020 and 2035. The San Diego region will be required to reduce GHG emissions from cars and light trucks 7 percent per capita by 2020 and 13 percent by 2035 (SANDAG 2011). The reduction targets are to be updated every eight years, but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets.

Once reduction targets are established, each of California's MPOs must prepare and adopt a SCS that demonstrates how the region will meet its greenhouse gas reduction targets through integrated land use, housing, and transportation planning. Enhanced public transit service combined with incentives for land use development that provides a better market for public transit will play an important role in the SCS. After the SCS is adopted by the MPO, the SCS will be incorporated into that region's federally enforceable RTP.

San Diego's MPO, SANDAG, completed and adopted its 2050 RTP in October 2011, the first such plan in the state that included a SCS (SANDAG 2011). In December 2012, the Superior Court ruled that SANDAG violated state law by failing to fully account for, and take steps to reduce, climate pollution in its environmental review of the RTP. It should be noted that as of the printing of this PEIR, the PEIR prepared for the RTP and SCS is the subject of ongoing litigation.

b. Local

San Diego Sustainable Community Program/Cities for Climate Protection

In 2002, the City Council approved the San Diego Sustainable Community Program (SCP) and requested that an advisory committee be established to provide recommendations that would decrease GHG emissions from City operations. The City subsequently became a

participant in the International Council for Local Environmental Initiatives (ICLEI) Cities for Climate Protection (CCP) Campaign to reduce GHG emissions, and in the California Climate Action Registry.

As a participant in the ICLEI CCP program, the City made a commitment to voluntarily decrease its GHG emissions by 2030 through a series of five milestones: (1) establish a CCP campaign, (2) engage the community to participate, (3) sign the U.S. Mayors Climate Protection Agreement, (4) take initial solution steps, and (5) perform a GHG audit. The City has advanced past Milestone 3 by signing the Mayor's agreement and establishing actions to decrease City Operations' emissions.

Climate Protection Action Plan

In July 2005, the City developed a Climate Protection Action Plan (CPAP) that identifies policies and actions to decrease GHG emissions from City operations. Recommendations included in CPAP for transportation included measures such as increasing carpooling and transit ridership, improving bicycle lanes, and converting the City vehicle fleet to low-emission or non-fossil-fueled vehicles. Recommendations in the CPAP for energy and other non-transportation emissions reductions included increasing building energy efficiency (i.e., requiring that all new City projects achieve the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Silver standard); reducing waste from City operations; continuing use of landfill methane as an energy source; reducing the urban heat island by avoiding dark roofs and roads which absorb and retain heat; and increasing shade tree and other vegetative cover plantings.

Because of City actions implemented earlier between 1990 and 2002, moderate GHG emissions reductions were reported in the CPAP. City actions taken to capture methane gas from solid waste landfills and sewage treatment plants resulted in the largest decrease in GHG emissions. Actions taken thus far to incorporate energy efficiency and alternative renewable energy reached only 5 percent of the City's 2010 goal. The transportation sector remains a significant source of GHG emissions in 2010 and has had the lowest GHG reductions, reaching only 2.2 percent of the goal for 2010. The recently amended City General Plan includes a Policy CE-A.13 to regularly monitor and update the CPAP.

Sustainable Building Policies

In several of its policies, the City aims to reduce GHG emissions by requiring sustainable development practices in City operations and incentivizing sustainable development practices in private development (see Council Policy (CP) 900-14—Sustainable Building Policy, adopted in 1997 and updated in 2010, CP 900-16—Community Energy Partnership, adopted in 2000, and the updated CP 600-27—Sustainable Buildings Expedite Program, last revised in 2003). The City has established a mandate for all City projects to achieve LEED Silver for all new buildings and major renovations over 5,000 square feet. Incentives

are also provided to private developers through the Expedite Program, which expedites project review of green building projects and discounts project review fees.

The City has also enacted codes and policies aimed at helping the City achieve the state's 75 percent waste diversion mandate, including the Refuse and Recyclable Materials Storage Regulations (Municipal Code Chapter 14, Article 2, Division 8), Recycling Ordinance (O-19678 Municipal Code Chapter 6, Article 6, Division 7), and the Construction and Demolition Debris Deposit Ordinance (0-19420 & 0-19694 Municipal Code Chapter 6, Article 6, Division 6).

General Plan

The General Plan includes several climate change-related policies aimed at reducing GHG emissions from future development and City operations. For example, Conservation Element policy CE-A.2 aims to "reduce the City's carbon footprint" and to "develop and adopt new or amended regulations, programs, and incentives as appropriate to implement the goals and policies set forth" related to climate change. The Land Use and Community Planning Element, the Mobility Element, the Urban Design Element, and the Public Facilities, Services, and Safety Element also identify GHG reduction and climate change adaptation goals. These elements contain policy language related to sustainable land use patterns, alternative modes of transportation, energy efficiency, water conservation, waste reduction, and greater landfill efficiency. The overall intent of these policies is to support climate protection actions, while retaining flexibility in the design of implementation measures, which could be influenced by new scientific research, technological advances, environmental conditions, or state and federal legislation.

Cumulative impacts of GHG emissions were qualitatively analyzed and determined to be significant and unavoidable in the Programmatic EIR prepared for the General Plan in 2008. A Programmatic EIR Mitigation Framework specifies that "for each future project requiring mitigation (measures that go beyond what is required by existing programs, plans and regulations), project-specific measures will [need to] be identified with the goal of reducing incremental project-level impacts to less than significant; or the incremental contributions of a project may remain significant and unavoidable where no feasible mitigation exists."

Climate Mitigation and Adaptation Plan

A citywide draft Climate Mitigation and Adaptation Plan (CMAP), dated August 28, 2012, has been developed to provide a mechanism for the City to achieve the goals of AB 32 and the CARB Scoping Plan at a program- level. The draft CMAP elements have been prepared pursuant to guidance from the amended CEQA Guidelines and CARB recommendations for what constitutes an effective GHG reduction plan.

The City's draft CMAP establishes a planning horizon of 2013 through 2035 and quantifies GHG emissions, establishes GHG reduction targets for 2020, 2035, and 2050, identifies

strategies and measures to reduce GHG emissions, and provides guidance for monitoring progress on an annual basis.

5.18.2 Significance Determination Thresholds

The CEQA Guidelines Appendix G Environmental Checklist includes the following two questions regarding assessment of GHG emissions:

1. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs?

2. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

As stated in the Guidelines, these questions are "intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance." The City has not adopted its own GHG Thresholds of Significance for CEQA and is following guidance from the 2008 CAPCOA report "CEQA & Climate Change," to identify screening criteria to determine when a GHG analysis would be required; and information from the CARB Scoping Plan and BAU 2020 Forecast to determine when a cumulatively significant contribution of GHGs has occurred.

The CAPCOA report references a 900-metric-ton guideline as a conservative threshold for requiring further analysis and mitigation. The City, thus, chose a 900-metric-ton screening criterion for determining when a GHG analysis would be required (Table 5.18-3). Projects that meet the following criteria are not required by the City to prepare a GHG technical analysis report, and are not considered to be significant.

TABLE 5.18-3
PROJECT TYPES THAT DO NOT REQUIRE A GHG ANALYSIS AND MITIGATION

Project Type	Project Size that Generates Approximately 900 Metric Tons of GHGs per Year
Single-Family Residential	50 units
Apartments/Condominiums	70 units
General Commercial Office Space	35,000 square feet
Retail Space	11,000 square feet
Supermarket/Grocery Space	6,300 square feet

For projects that do not meet the criteria outlined in Table 5.18-3, the City requires a GHG emissions analysis to demonstrate that the proposed project design achieves a 28.3 percent reduction relative to BAU GHG emissions (City of San Diego 2008b). This requirement is based on the CARB BAU 2020 Forecast and Scoping Plan, which identify reductions needed to achieve an approximate overall 28.3 percent reduction in statewide BAU emissions by 2020.

If the project's 2020 GHG emissions with incorporation of GHG-reducing regulations and design features represent a 28.3 percent reduction relative to the project's BAU GHG emissions, the project would not result in a significant impact to global climate change.

5.18.3 Issue 1: Consistency with Adopted Plans, Policies, and Regulations

Would the CPU conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

5.18.3.1 Impacts

a. Consistency with Local GHG Reduction Measures

Policies within the CPU have been designed to reflect and implement the general GHG reduction recommendations of the General Plan, as well as the strategies of other local plans and state GHG reduction measures. These policies would also complement the City's operations-focused efforts of the Sustainable Community Program/CCP, the adopted CPAP, and City Council Policy 600-27 and Council Policy 900-14, referenced further in section 5.18.1.3.b.

Specifically, the CPU includes updated Conservation, Mobility, and Urban Design elements that include several policies aimed at reducing GHG emissions from target emission sources and/or aimed at adapting to climate change. The CPU policies provide refinement of the General Plan and citywide CPAP policies as specifically applicable to the CPU area. As described below, in several cases these policies are also consistent with key state GHG reduction plans, regulations, and recommended mitigation measures. An overview of relevant CPU elements and policies is outlined below.

Conservation Element

Climate Change and Sustainability Policies. The CPU contains policies 8.2-1 through 8.2-6 to provide a framework for addressing and adapting to climate change. These strategies are generally consistent with and encourage the implementation of the General Plan Mitigation Framework recommendations and Policies CE-A-1 through CE-A-13 as well as climate change mitigation and adaptation strategies of state plans and programs. These framework policies include the types of policies anticipated to be set forth in the draft CMAP currently being prepared by the City (refer to section 5.18.1.3.b).

Water Policies. The CPU's Conservation Element includes water conservation measures (Policies 8.3-1 through 8.3-4) to reduce the need for water, thereby reducing the energy use embodied in water supply and treatment and its associated GHG emissions. The policies promote the use of reclaimed and recycled water. The policies are consistent with the outdoor water-reduction strategies of the General Plan, the state Climate Change Scoping

Plan, the 2010 CAPCOA GHG Mitigation Measures report, and the recently effective 2011 CalGreen water-reduction requirements for residential and non-residential uses. At the individual project-level, some of these measures would be quantified.

Urban Forestry Policies. Street tree and private tree planting programs are low-cost, low-technology methods for improving the visual landscape and air quality in the CPU area. As the number and size of trees in the CPU area urban forest increase, so will the benefits. These benefits include lower energy consumption resulting from reduction in the size of the urban heat island; reduced storm water runoff through absorption of water by the trees; improved air quality achieved as trees convert carbon dioxide into oxygen, and an improved pedestrian environment created by providing pedestrians protection from the heat and glare of the sun.

Planting shade trees around buildings has been shown to effectively lower the electricity cooling demand of buildings by blocking incident sunlight and reducing heat gain through windows, walls, and roofs (CAPCOA 2010). By reducing cooling demand, shade trees help reduce electricity demand from the local utility, and therefore reduce GHG emissions which would otherwise be emitted during the production of electricity. Policies 8.5.1 through 8.5.5 of the CPU conform to the General Plan urban forestry Policies CE-J.1 through CE-J.5, and would promote the need for an increase in tree plantings in both residential and commercial areas.

Community Farms and Gardens Policies. The CPU area has the potential to provide multiple sites for community gardens that would contain individual and shared-plot spaces. The CPU Policies 8.6.1 and 8.6.2 would promote the need for the development of community gardens within the community.

Establishment of community gardens has the potential to further reduce GHG emissions by providing residents with a local source of food, potentially resulting in a reduction in the number of trips and VMT traveled by food deliverers and the consumers to grocery stores and supermarkets. Community gardens would also contribute to GHG reductions by displacing carbon-intensive food production practices. These emissions reductions cannot be reasonably quantified at this time because they are based on several undefined parameters: the relative locations of the farmer's market, supermarket, and supermarket produce suppliers; the carbon intensity of food production practices; and the role of the farmer's market in a development.

Mobility Element

Through increasing density, bringing people closer to their work and providing pedestrian connections to retail, commercial, and residential units, a substantial reduction in VMT can occur. A communitywide reduction in vehicle travel would reduce local VMT, which would in turn reduce emissions associated with vehicle use. The CPU would generate 1,045,025 ADT. The daily trip rates take into account the CPU density, diversity or mixed-

use, improved walkability, and transit accessibility. The effectiveness of these land use strategies ranges from less than 1 percent up to a maximum 30 percent reduction in communitywide VMT (CAPCOA 2010).

The CPU Mobility Element includes numerous policies to improve the pedestrian (Policies 3.1-1 through 3.1-4) and bicycle network (Policies 3.4-1 and 3.4-2), and to increase transit accessibility and provide transit improvements (Policies 3.2-1 through 3.2-5). Generally, these policies would be consistent with the General Plan, and also consistent with the CARB Scoping Plan vehicle reduction measures for land use development and with specific traffic mitigation measures identified in the 2010 CAPCOA GHG Mitigation Measures report.

Urban Design Element

Distinct Districts and Streetscape Policies. Policies 4.1-1, 4.1-4, 4.1-15, 4.2-1, and 4.2-2 would promote enhanced connectivity to activity centers, active commercial centers supported by transit, improved pedestrian access and movement, pedestrian-oriented design principles, and improved walkability. Generally, these policies would be consistent with the General Plan, the CARB Scoping Plan, and the 2010 CAPCOA GHG Mitigation Measures report.

Sustainability Policies. Policies 4.9-1 through 4.9-5 would promote green building techniques that would be consistent with General Plan policies and with green building strategies recommended in the state Climate Change Scoping Plan and several of the measures identified in the 2010 CAPCOA GHG mitigation measures report. GHG reductions from these policies are not quantifiable at the program-level. Future development implemented in accordance with the CPU would be required to implement some of these measures, which would be quantified and their GHG reductions accounted for using the CalEEMod GHG emissions estimator model or other appropriate methods, thereby further reducing GHG emissions associated with the buildout of the CPU.

b. Consistency with State GHG Reduction Strategies

EO S-3-05 established GHG emission reduction targets for the state, and AB 32 launched the CARB Climate Change Scoping Plan that outlined the reduction measures needed to reach the 2020 target. The CARB Scoping Plan and its implementing and complementary regulations are discussed under Section 5.18.1.3 and generally encompass the GHG reduction strategies described at the beginning of this section. Subsequent to the CARB Scoping Plan, CAPCOA, released the report *Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures* ("Mitigation Measures" report*),* that identifies specific project-level and program-level GHG reduction measures. The report includes quantification of the GHG reductions that would be achieved through incorporation of project-level mitigation measures. These measures fall into the same categories as discussed earlier: transportation, energy, water and wastewater, solid waste, area source (woodstoves,

fireplaces, landscaping equipment), and construction emissions. Most of the mitigation measures included in the CAPCOA report would be identified for project-level analyses; however, the project-level reduction strategies would be extrapolated to the program level. The program-level reduction measures included in the report are few in comparison and would be largely unquantifiable. They pertain to funding and incentive programs for increased energy efficiency, establishment of local farmer's markets and community gardens, urban shade tree planting programs, and communitywide strategies to reduce urban heat island effect. Several of the program-level measures, as well as the project-level measures, have been incorporated into the CPU, as discussed above.

In general, the CPU policies outlined above correspond to the intent of the GHG reduction measures identified in both the 2010 CAPCOA GHG Mitigation Measures report and the 2008 CARB Scoping Plan. Where practicable, GHG reductions have been included in the quantification of the CPU's GHG emissions, as described in Section 5.18.4 cumulative GHG emissions analysis. In the quantification of CPU GHG emissions, GHG reductions were accounted for vehicle emissions, and energy and water use emissions. These comprised the GHG reduction/mitigation measures that were quantifiable at the program-level. Subsequent projects would achieve further GHG reductions in these emissions sources, as well as in the area source, construction, and solid waste GHG emissions through project-specific design features.

5.18.3.2 Significance of Impacts

The CPU contains policies that would reduce GHG emissions from transportation and operational building uses (related to water and energy consumption, and solid waste generation, etc.) and would be consistent with the strategies of local and state plans, policies, and regulations aimed at reducing GHG emissions from land use and development. Subsequent projects implemented in accordance with the CPU would be required to implement GHG-reducing features beyond those mandated under existing codes and regulations. However, because project-level details are not known, there is the potential that projects would not meet the necessary City reduction goals put in place in order to achieve the reductions required by AB 32. Thus, the level of potential impacts associated with plan conflict would be significant.

5.18.3.3 Mitigation Framework

GHG-1: Future projects implemented in accordance with the CPU shall be required to demonstrate their avoidance of significant impacts related to long-term GHG emissions. The Mobility, Urban Design, and Conservation elements of the CPU include specific policies to require dense, compact, and diverse development, encourage highly efficient energy and water conservation design, increase walkability and bicycle and transit accessibility, increase urban forestry practices and community gardens, decrease urban heat islands, and increase climate-

sensitive community design. These policies would serve to reduce consumption of fossil-fueled vehicles and energy resulting in a reduction in communitywide GHG emissions relative to BAU.

Future projects implemented in accordance with the CPU shall be required to incorporate GHG reducing features or mitigation measures in order to show a 28.3 percent reduction in GHG emissions, relative to BAU, to meet AB 32 year 2020 target levels. Quantifiable GHG reduction measures at the level of subsequent projects consist of:

- Building and non-building energy use
- Indoor and outdoor water use
- Area sources
- Solid waste disposal
- Vegetation/carbon sequestration
- Construction equipment
- Transportation/vehicles

5.18.3.4 Significance After Mitigation

Future projects implemented in accordance with the CPU would be required as a condition of project approval to include GHG-reducing features identified in a project-specific analysis as well as demonstrating consistency with applicable GHG plans, policies, and regulations. The effectiveness and feasibility of the GHG reduction measures stated above in reducing GHG emissions have been documented in the 2010 CAPCOA publication *Quantifying Greenhouse Gas Mitigation Measures* (CAPCOA 2010). They have subsequently been included in the mitigation modules of CalEEMod to quantify GHG emissions and reductions. These measures are included in the City's CMAP, yet to be adopted. These measures are best quantified at the project-level, because specific project-level design information is needed to calculate accurate GHG reductions. Therefore, even with adherence to the Mitigation Framework, GP and CPU policies, at the program-level, impacts related to GHG emissions would remain significant and unavoidable.

5.18.4 Issue 2: Cumulative GHG Emissions

Would implementation of the CPU generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

5.18.4.1 Impacts

Given current City guidance, the CPU would be required to demonstrate a 28.3 percent reduction in GHG emissions for the CPU and future projects implemented in accordance with the CPU. The vehicle portion of these estimates has been estimated both with and

without accounting for the LCFS. Estimation without accounting for the LCFS is due to the fact that CARB's implementation of the LCFS GHG reduction program has been impeded by recent litigation. In December 2011, a preliminary injunction blocking CARB's implementation of the LCFS was granted. On April 23, 2012, the Ninth Circuit Court of Appeals overturned the injunction pending a ruling on the merits of the case. While there is no injunction currently in place, the City has determined there is sufficient legal uncertainty with this program that projects cannot rely on taking credit for CARB's implementation of the LCFS program when analyzing whether or not it meets the BAU threshold. Accordingly, the City has approved a new protocol requiring GHG technical studies to analyze project impacts both with and without reliance on the LCFS. As discussed previously, BAU emissions are the GHG emissions that would be expected to occur in the absence of GHG-reduction measures (including local and state regulations) or mitigation. To evaluate the CPU's GHG emissions relative to BAU, emissions have been quantified and projected to the year 2020 for both BAU and the CPU. This is because the AB 32, CARB BAU Forecast, and associated Scoping Plan GHG reduction targets (including the overall 28.3 percent reduction in BAU target) have been projected to a year 2020 horizon. Although the CPU has a time horizon of 15 to 20 years, with horizon year buildout anticipated to complete by roughly 2030 or 2035, no specific GHG reduction target has been identified in state legislation after 2020. Executive Order S-3-05 identified a GHG reduction target for 2050 but did not identify interim targets for the decades between 2020 and 2050. Establishing target reductions and significance of GHG emissions beyond 2020 is too speculative. Therefore, in this analysis the GHG emissions estimates based on horizon year buildout of the CPU have been compared to the 2020 GHG reduction goals in order to evaluate significance. In other words, for the purpose of this analysis, horizon year buildout is projected to occur by 2020.

GHG emissions have been estimated using CalEEMod (SCAQMD 2011). In brief, the model estimates criteria air pollutants and GHG emissions by multiplying emission source intensity factors by estimated quantities of emission sources based on the land use information.

Emission estimates have been calculated for the three GHGs of primary concern (CO_2, CH_4, and N_2O) that would be emitted from construction and the five primary operational sources that would be associated with CPU buildout: mobile sources, area sources, energy use, water use, and solid waste disposal. To evaluate the reductions in GHG emissions of the CPU relative to the BAU 2020 Forecast, emissions have been estimated for two scenarios: first, CPU buildout without GHG-reducing measures (i.e., CPU buildout under BAU conditions) and, second, CPU buildout with GHG-reducing measures. This allowed for a comparison between the CPU buildout with and without GHG-reducing measures in accordance with the City's 28.3 percent reduction goal.

Emissions due to land uses that currently exist in the CPU area have been calculated separately from emissions due to additional new construction that would occur under the CPU. It was assumed that future land uses would be constructed on currently vacant land. The distinction between these two categories has been made because of the differences in

energy and water consumption rates for new development versus existing development constructed in accordance with older building codes.

Greater detail on CalEEMod and the methodology and assumptions used to estimate the CPU emissions are contained in the GHG technical report (see Appendix N).

a. Vehicle Emissions

For this analysis, CalEEMod default trip rates have been edited to reflect the trip rates identified for each land use subtype in the TIA (see Appendix J; Urban Systems Associates 2012). The default trip lengths have been used. CalEEMod default vehicle emission factors and fleet mix have been derived from the emission factors (EMFAC) 2007 model and adjusted for Pavley and the LCFS. For this analysis, the default values that account for Pavley and LCFS have been used to yield accurate estimates of the future CPU horizon year buildout with GHG reductions. Vehicle emissions under the BAU scenario would be those that would occur without regulations aimed at reducing vehicle emissions (Pavley and LCFS). To calculate the BAU scenario (i.e., the CPU without GHG reductions scenario), the CPU vehicle emissions have been divided by 0.70 to achieve a 30 percent increase in order to reflect the absence of those two regulations.

The traffic impact analysis determined that approximately 1,045,025 total vehicle trips would occur daily in association with horizon year buildout of the CPU (Urban Systems Associates 2012). The BAU and CPU GHG emissions due to vehicle sources are summarized in Tables 5.18-4 and 5.18-5, respectively. As shown, by accounting for statewide Pavley and LCFS vehicle and fuel regulations identified in the CARB Scoping Plan, BAU vehicle emissions would be reduced by roughly 30 percent. By accounting for only Pavley and not LCFS, BAU vehicle emissions would be reduced by roughly 20 percent.

TABLE 5.18-4
SUMMARY OF ESTIMATED BAU GHG EMISSIONS
($MTCO_2E$)

Emission Source	Emissions from Currently Existing Development	Emissions from New Development	Total BAU Emissions
Vehicle	738,452	669,176	1,407,628
Energy	195,730	191,122	386,851
Area	8,856	36,118	44,975
Water Consumption	916,242	555,687	1,471,929
Solid Waste Disposal	886,942	525,419	1,412,361
Construction	0	34,604	34,604
TOTAL	**2,746,222**	**2,012,126**	**4,758,348**

TABLE 5.18-5
SUMMARY OF ESTIMATED CPU GHG EMISSIONS
($MTCO_2E$)

Emission Source	Emissions from Currently Existing Development	Emissions from New Development	Total Future (2020) Emissions
Vehicle	516,916	468,424	985,340
Energy	195,730	182,189	377,918
Area	8,856	36,118	44,975
Water Consumption	916,242	444,550	1,360,792
Solid Waste Disposal	886,942	525,419	1,412,361
Construction	0	34,604	34,604
TOTAL	**2,524,686**	**1,691,303**	**4,215,989**

b. Energy Use Emissions

CalEEMod default energy values have been based on the California Energy Commission-sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies, which identify energy use by building type and climate zone. Because these studies have been based on older buildings, adjustments have been made in CalEEMod to account for changes to Title 24 building codes. The default adjustment was made to the current 2008 Title 24 energy code (part 6 of the building code). Adjustments to simulate the 2005 Title 24 energy code are also available in CalEEMod.

For the BAU energy emissions estimate and the existing conditions estimate, GHG emissions from energy use have been calculated based on construction in accordance with the 2005 Title 24 energy code. For the estimates of the CPU, energy emissions have been estimated based on all new development constructed in accordance with the 2008 Title 24 energy code and all existing development, which would remain under buildout of the CPU, constructed in accordance with the 2005 Title 24 energy code. The BAU and CPU GHG emissions associated with energy use are summarized in Tables 5.18-4 and 5.18-5, respectively.

The Title 24 energy code is updated every five years or so to account for changing technologies. It is likely that over the lifetime of the CPU, the energy code would be updated to include increased standards that would further reduce building energy demand and associated GHG emissions. New building construction and major renovations subject to the updated code would have an improved energy efficiency profile compared to the existing buildings or newer buildings built to comply with earlier versions of the energy code. Subsequent projects would also voluntarily exceed the current Title 24 energy code, install high-efficiency lighting and plug-in appliances, and/or include on-site renewable energy generation. At the project level, the GHG reductions from these actions would be quantified in CalEEMod in accordance with the 2010 CAPCOA GHG Mitigation Measures report.

Therefore, over time, the level of GHG emissions resulting from building energy use would be less than the estimates presented in Tables 5.18-4 and 5.18-5.

Also, as discussed earlier, the CARB Scoping Plan includes a Renewables Portfolio Standard, which requires public utilities to acquire an increasing proportion of their energy supply from renewable energies. By 2020, 33 percent of all statewide electricity generation would come from renewable energies. This would result in a statewide emissions reduction of 26.3 $MMTCO_2E$. Through implementation of the Renewables Portfolio Standard, GHG emissions from electricity generation needed to supply future projects would likely decline as energy supply shifts from fossil fuel-based energies to renewable energy. Renewable energies have zero to little carbon content and their use in electricity generation emits fewer GHGs. Therefore, over time the quantity of GHG emissions resulting from the CPU's buildout energy consumption would likely be less than those presented in Tables 5.18-4 and 5.18-5.

c. Area Source Emissions

Area source emissions include hearths, woodstoves, and landscaping equipment. The use of hearths (fireplaces) and woodstoves directly emits CO_2 from the combustion of natural gas, wood, or biomass, some of which are classified as biogenic. The use of landscape equipment emits GHGs associated with the equipment's fuel combustion. CalEEMod estimates the number and type of landscape equipment needed based on the number of summer days given the project's location. The model defaults for hearths, woodstoves, and landscaping equipment have been used.

The BAU and CPU GHG emissions due to area sources are presented in Tables 5.18-4 and 5.18-5, respectively. The same quantities have been estimated to occur under BAU and CPU conditions, as no area source GHG reductions would be accounted for at the program level in the CalEEMod estimates.

Measures that would reduce area source emissions include restrictions on hearth fuel type or limits on their quantity or restrictions against the inclusion of hearths in residential projects. Future project-level reduction measures would also include the use of only electric-powered landscaping equipment, such as electric lawnmowers, electric leafblowers and electric chainsaws, versus gasoline or diesel-powered landscaping equipment. These measures have been included in CalEEMod's area source mitigation module, but require quantified project-level data in order to account for any GHG reductions. Subsequent projects that incorporate these kinds of design features or requirements would emit reduced area source GHGs relative to BAU area source emissions.

d. Water Use Emissions

The amount of water used and wastewater generated by a project would have indirect GHG emissions associated with it. These emissions would be a result of the energy used to

supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment would directly emit both methane and nitrous oxide.

Default water consumption rates have been used for the estimates of BAU and existing conditions, including the existing land uses that would remain within the CPU horizon year. However, for the future/new land uses of the CPU, a 20 percent reduction in water use was applied in accordance with recent requirements of CalGreen. Similar to energy use, recent updates to the water conservation element of Title 24 have resulted in increased water conservation for development subsequent to 2010. New construction that would occur under the CPU would be constructed in accordance with the current 2011 CalGreen or later water conservation requirements. Because the 2011 CalGreen (i.e., Part 11 of Title 24) requires a minimum 20 percent reduction in water use, a 20 percent reduction in BAU water use has been factored into the CPU emissions.

The BAU and CPU GHG emissions due to water consumption are presented in Tables 5.18-4 and 5.18-5, respectively. It should be noted that industrial land uses consume significantly more water than other land uses. Due to the large amount of industrial uses in the CPU area, GHG emissions due to water use would be much greater in the CPU area than in other areas dominated by residential and commercial development.

The CARB Scoping Plan also includes other potential GHG reduction strategies associated with the water sector which they estimate would reduce statewide water sector GHGs an additional 4.8 $MMTCO_2E$ by 2020. The measures require water suppliers to improve energy and other efficiencies associated with water supply. Thus, it is possible that the embodied energy and resulting GHG emissions associated with supplying potable water to the CPU would decrease somewhat by 2020 through these statewide efforts.

Also, certain design-specific measures that would not be quantifiable at the program level would reduce subsequent projects' water use GHG emissions. Measures that would reduce water use emissions at the project level include increased water conservation beyond the mandatory minimums in CalGreen, the use of reclaimed water or gray water, and the incorporation of green landscape design methods such as turf reduction/minimization, use of water-efficient plants and materials, and use of highly water-efficient irrigation systems. Project-level design information would be required to quantify the GHG reductions, such as the percent of reduction in water flow for various plumbing fixtures, percent of indoor/outdoor water use served by reclaimed or gray water, area of turf reduction, water demand in gallons per year of the water-efficient landscape design, and so forth.

e. Solid Waste Emissions

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. CalEEMod determines the GHG emissions associated with disposal of solid waste into landfills. Portions of these emissions

are biogenic. CalEEMod methods for quantifying GHG emissions from solid waste have been based on the Intergovernmental Panel on Climate Change (IPCC) method using the degradable organic content of waste. Existing, BAU, and CPU GHG emissions associated with waste disposal have been all calculated using CalEEMod's default parameters.

The BAU and CPU GHG emissions due to solid waste are presented in Tables 5.18-4 and 5.18-5, respectively. The same quantities have been estimated to occur under BAU and CPU conditions, as no solid waste GHG reductions would be accounted for at the program level. Similar to water use, industrial land uses typically generate more waste than other land uses. Due to the large amount of industrial uses in the CPU area, GHG emissions due to solid waste would be greater in the CPU area than in other areas in the basin.

Measures that would reduce solid waste GHG emissions below BAU levels include the institution of recycling and composting services that achieve a quantifiable percentage reduction in the baseline waste disposal. Project-level information would be required in order to account for any GHG reductions. Subsequent projects that incorporate this or other kinds of waste minimization features or requirements would emit reduced solid waste GHGs relative to BAU solid waste emissions.

f. Construction Emissions

Construction activities emit GHGs primarily though combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-road construction vehicles and in the commute vehicles of the construction workers. Smaller amounts of GHGs are also emitted through the energy use embodied in any water use (for fugitive dust control) and lighting for the construction activity. Every phase of the construction process, including demolition, grading, paving, and building, emits GHG emissions, in volumes proportional to the quantity and type of construction equipment used. The heavier equipment typically emits more GHGs per hour of use than the lighter equipment because of their greater fuel consumption and engine design.

Construction is a temporary source of GHG emissions. Although these emissions are temporary, the impact from the emissions of GHGs is cumulative. The Association of Environmental Professionals (AEP) has recently recommended that total construction GHG emissions resulting from a project be amortized over 30 years and added to operational GHG emissions to provide a cumulative estimate of annual GHG emissions for the plan (AEP 2010). However, the exact nature and timing of development with the CPU area is unknown at this time. In order to provide an estimate of the GHG emissions that would occur from construction of new development, CalEEMod construction defaults have been assumed and the construction phasing has been adjusted to 30 years. Also, as recommended in a recent (March 2012) CalEEMod workshop conducted by CARB, because CalEEMod overestimates construction emissions by roughly 30 percent, the resulting total quantity of construction emissions estimated by CalEEMod has been multiplied by 0.70 to obtain total construction GHGs.

The BAU and CPU GHG emissions due to construction activities are presented in Tables 5.18-4 and 5.18-5, respectively. No quantifiable construction GHG reductions can be accounted for at the program level; therefore, the estimated emissions for both the BAU and CPU conditions would be the same.

The Scoping Plan does not identify any statewide measures specific to reducing GHG emissions from construction activities. However, the Scoping Plan reduction measure affecting heavy-duty truck emissions would potentially encompass construction on-road diesel vehicles and off-road equipment, and further reduce emissions through improved engine technology and conversion to non-diesel, low-carbon fuels. These GHG reductions would be realized by subsequent future projects implemented in accordance with the CPU.

Other project-level measures would be implemented that would reduce BAU construction emissions. While most of the reduction measures pertain to reducing criteria pollutants, particularly particulates, options to reduce GHG emissions include restrictions on equipment fuel type, engine tier, and use of oxidative catalyst reduction.

g. Total Combined Emissions

As shown in Table 5.18-4, the combined total BAU GHG emissions without GHG reductions would be approximately 4,758,348 $MTCO_2E$. Of this total, approximately 2,746,222 $MTCO_2E$ (57.7 percent) would be associated with the CPU's currently existing development, and 2,012,126 $MTCO_2E$ (42.3 percent) would be associated with new proposed development, consistent with the CPU.

As shown in Table 5.18-5, the combined total CPU GHG emissions without GHG reductions would be approximately 4,215,989 $MTCO_2E$. Of this total, approximately 2,524,686 $MTCO_2E$ (59.9 percent) would be associated with the CPU's currently existing development, and 1,691,303 $MTCO_2E$ (40.1 percent) would be associated with new proposed development.

Table 5.18-6 summarizes the CPU's estimated BAU emissions, emissions with GHG reductions, and resulting percentage reductions, for evaluation against the City's goal of a 28.3 percent reduction relative to BAU.

TABLE 5.18-6
ESTIMATED CPU GHG EMISSIONS AND BAU REDUCTIONS
($MTCO_2E$)

Emission Source	BAU Emissions (i.e., without GHG Reductions)	CPU Emissions with Project-Level GHG Reductions	Percent Reduction Relative to BAU Reduction Target
Vehicles	1,407,628	985,340	30.0
Energy Use	386,851	377,918	2.3
Area Sources	44,975	44,975	0.0
Water Use	1,471,929	1,360,792	7.6
Solid Waste	1,412,361	1,412,361	0.0
Construction	34,604	34,604	0.0
TOTAL	**4,758,348**	**4,215,989**	**11.4***

*An 11.4 percent reduction accounts for Pavley and LCFS reductions in vehicle emissions, 2008 Title 24 reductions in energy emissions, and CalGreen reductions in water use emissions. By not including the LCFS reduction, the total percent reduction relative to BAU becomes 9.1 percent.

Estimated emissions reductions accounted for in this analysis are due to regulations on auto and fuel manufacturers (Pavley and LCFS) and to the recently updated Title 24 California Building Code that contains increased energy and water efficiency requirements. The Mobility, Urban Design, and Conservation elements of the CPU include specific policies aimed at decreasing vehicle use and increase energy efficiency; however, these cannot be quantified in terms of their GHG emissions reductions at the program level.

BAU emissions would total 4,758,348 $MTCO_2E$ annually. The CPU emissions with GHG reductions would total 4,215,989 $MTCO_2E$ annually. This reduction in BAU emissions of 542,359 $MTCO_2E$ each year would be due to regulations on auto and fuel manufacturers that would reduce vehicle emissions by 2020. Reduction would also be due to the recently updated Title 24 California Building Code that contains increased energy and water efficiency requirements that would reduce GHG emissions from those sources for additional new development. Of the estimated 4,215,989 $MTCO_2E$ of GHGs associated with buildout of the CPU, the majority (59.9 percent) would come from currently existing development and the remainder (40.1 percent) would come from additional new development.

The CPU GHG emissions, when compared to the BAU annual emissions, would result in an 11.4 percent reduction in GHG emissions relative to BAU. This falls short of meeting the City's goal for demonstrating a minimum 28.3 percent reduction in GHG emissions relative to BAU. When comparing the new proposed development only (i.e., not taking into account the GHG emissions from currently existing development), the CPU would result in a 15.9 percent reduction relative to BAU. The Mobility, Urban Design, and Conservation elements of the CPU include specific policies aimed at decreasing vehicle use and increase energy efficiency; however, these cannot be quantified in terms of their GHG emissions reductions at the program level. Because the CPU GHG emissions would fall short of the 28.3 percent reduction goal relative to BAU, the cumulative GHG emissions generated from CPU buildout would be considered significant. Therefore, subsequent projects implemented in accordance

with the CPU would be required to implement GHG-reducing features beyond those mandated under existing codes and regulations.

It should be noted that if the CPU were not adopted, development in Otay Mesa would continue to occur in accordance with the currently adopted Community Plan. The adopted Community Plan allows for more development than the CPU. The adopted Community Plan would also generate more traffic than the CPU. The CPU would introduce higher density residential and commercial land use designations, as well as several new mixed-use and industrial land use designations. As such, the GHG emissions associated with the adopted community plan would be greater than those summarized in Table 5.18-6.

5.18.4.2 Significance of Impacts

The 9.1 to 11.4 percent reductions relative to BAU fall short of meeting the City's goal of a minimum 28.3 percent reduction in GHG emissions relative to BAU, and therefore impacts associated with GHG emissions under the CPU would be significant and unavoidable.

The Mobility, Urban Design, and Conservation elements of the CPU include specific policies to require dense, compact, and diverse development, encourage highly efficient energy and water conservation design, increase walkability and bicycle and transit accessibility, increase urban forestry practices and community gardens, decrease urban heat islands, and increase climate-sensitive community design. These policies would serve to reduce consumption of fossil-fueled vehicles and energy resulting in a reduction in communitywide GHG emissions relative to BAU. These policies are discussed in detail in Section 5.18.3.

Despite the inclusion of these policies (most of which are not quantifiable in terms of their GHG emissions reductions at the program level), and despite the GHG reductions gleaned from statewide regulations on vehicle GHG emissions and building energy and water use, the CPU's projected GHG emissions would fall short of meeting the 28.3 percent GHG reduction target relative to 2020 BAU.

5.18.4.3 Mitigation Framework

GHG-2: Future projects implemented in accordance with the CPU shall be required to demonstrate their avoidance of significant impacts related to long-term operational emissions as identified in mitigation measure GHG-1 in Section 5.18.3.3.

The approximate gap of 16.9 to 19.2 percent in meeting the target reductions shall consist of one or a combination of several effective and quantifiable GHG reduction measures that pertain to: building and non-building energy use; indoor and outdoor water use; area sources; solid waste disposal; vegetation/carbon sequestration; construction equipment; and transportation/vehicles. Project-level GHG reduction design features shall demonstrate a reduction in BAU GHG emissions to 28.3 percent or more relative to BAU, and to the extent practicable,

shall be required for future development projects implemented in accordance with the CPU.

5.18.4.4 Significance after Mitigation

While future development projects within the CPU area would be required to implement GHG emission reduction measures to the extent practicable, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each future project at this program-level of analysis. Therefore, buildout of the CPU would result in impacts associated with the contribution of GHG emissions to cumulative statewide emissions that would be considered significant and unavoidable at the program level, even with adherence to the Mitigation Framework. Please also refer to Mitigation Framework GHG-1 in Section 5.18.3.3.